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"For many fortunate discoveries in medicine, and for the detection of numerous errors, the world is indebted to the rapid circulation of Monthly Journals; and there never existed any work to which the Faculty in EUROPE and AMERICA were under deeper obligations than to the Medical and Physical Journal of London, now forming a long, but an invaluable, series."—RUSH.

For the London Medical and Physical Journal.

On Surgical Education; by BARNARD VAN OWEN, Esq.

THE unrestrained freedom of intercourse between England and the continent has afforded such ample opportunities of investigating the scientific and literary institutions of other countries, that it is surprising we should have profited so little by the occasion; and, above all, that our system of surgical education should have remained unaltered, whilst that of our neighbours is in many respects so eminently superior to our own. This is the more remarkable, as the enlightened and philosophic spirit of the present age disclaims all the petty prejudices of national vanity, and seeks only the advancement of science and the amelioration of human nature: I am, therefore, induced to believe, that many of the excellencies of the French and German schools are but imperfectly understood, and that I am performing a task not wholly uninteresting to the profession, or useless to the public, in endeavouring to point out those parts of the foreign systems which may deserve imitation; for, whilst it must be confessed that London is an admirable school of anatomy and surgery, and that the number and extent of its hospitals, the great ability of the professors, and the facilities of dissection, offer to the industrious student opportunities of improvement scarcely any-where else to be found,—it is equally undeniable that the negligent are too much allowed to waste those opportunities; that the important offices of dresser and house-surgeon are too often filled by the ignorant and inexperienced; and that the diploma of the Royal College is too often bestowed on men very inadequately fitted to discharge the duties of the profession. The only stimulus given to the London student is that of emulation: minds, panting with scientific ardour

and anxious to excel, find ample opportunities of research; and hence the number of clever young men to be met with in our hospitals, and of great surgeons in our cities. But this is not enough: we should take care that the public health be never intrusted to licensed ignorance, who, having lounged through the wards of an hospital, attended a few lectures, and undergone a superficial examination, are enabled to denominate themselves surgeons and accoucheurs, and practise to the injury of their patients and the disgrace of their science and country. That this too often occurs in England is but too true, and it is equally true that it can scarcely ever occur in France or Germany; the period of study insisted on being much longer, and the examinations much more severe than here.

How frequently does it happen that a young man, after having spent four or five years, as an apothecary's apprentice, in the *very scientific employment* of mixing draughts and powders, is sent to London to devote *one* twelve-month to the acquirement of all the sciences connected with medicine, surgery, and midwifery. Often not content with this Herculean labour, and wishing to initiate himself in practice, he procures a dressership at some hospital; and, ignorant and inexperienced as he may be, he is immediately entrusted with the care of the most important cases. It were a waste of time to point out the improprieties of such a system, or to trace the evils that may result from it when ignorance and self-sufficiency chance to be united: suffice it to say, that this can never occur in France. The students there form three classes:—1st, such as only follow the surgeons during their visits to the wards, and observe what is done; 2nd, the *eléves externes*, who prepare the dressings and bandages, and assist in applying them; and, 3rd, the *eléves internes*, who are somewhat analogous to our house-surgeons. These classes vary in importance, but the distinction is not acquired, as with us, by dint of money, but by attentive study and observation. The eléves externes are selected from the mass of students by strict examination, and the eléves internes from them by a similar process; so that those only can be elevated to superior rank who can display superior ability, and the patients are entrusted only to the skilful and well-informed. Having thus finished his academic studies, the young Frenchman is entitled to demand his examinations: they are five in number, embrace all the sciences connected with our profession, and two are entirely in Latin. It is true that his attendance at the lectures and hospitals is as optional as here; but, when the strictness of the examinations is remembered, it would be vain to ima-

gine that such attendance can be neglected. Although it may appear that nothing can be superior to this system of education, yet it is by no means free from faults; but is in this evidently superior to our own, that it seems to secure the public against regular but ill-qualified practitioners.

One of the great excellencies of foreign hospitals is the clinical lectures, constantly delivered; and it is almost a paradox, that, whilst those of Edinburgh are so much lauded, similar ones are so very rarely delivered in London. There cannot be a doubt that nothing contributes more to the advancement of the student, and to the giving him clear and distinct ideas of diagnosis, than such lectures; yet it must be remembered that they prevent, in some measure, the free exercise of his judgment: for how can he unbiassed examine a case, of the nature of which he is previously informed? To render these lectures, therefore, truly useful, they should only be delivered on a small number of select cases, which may serve as examples for the examination of others; and the following plan, pursued in some of the schools of Germany, should be adopted:—The students are there divided into two classes; those who only observe, and those who practise. The former see the cases, hear the reports, and attend the lectures; the latter have cases given to their care by the professor, to treat accordingly to their own judgment, subject to the observation of their teacher; and all are thus gradually introduced into active practice, in a manner which, whilst it gives full scope to their talents, prevents their inexperience proving hurtful. In this way, too, they are often allowed to perform operations under the directing eye of their master, and the critical regard of their fellow pupils.

The students of Paris, as well as those of most of the German schools, possess the advantage of a good medical library and museum. The excellence of the public libraries abroad, and the ease of access to them, is highly praiseworthy, and must prove inestimable to the student. To regard these noble depositaries of science creates in the mind of the English surgeon a degree of regret, mingled with a feeling of shame, that the only public library in London, that of the British Museum, is entered with some difficulty, and is rather suited to antiquarian research than to the purposes of general study; and it is least of all a medical library, which must be regarded as a great desideratum in this metropolis, but imperfectly supplied by the private collections of hospitals and societies.

Throughout the continent, I believe, nearly the same course of study must be pursued, and nearly the same

probations undergone, whether a degree in medicine or surgery be desired. Such an arrangement cannot be too highly praised, for it is quite impossible entirely to separate these two branches of the profession, either in theory or practice: yet, until very lately, how little was the theory or practice of medicine studied here except by regular physicians? The Company of Apothecaries are doing much to remedy this evil, and their exertions promise to procure for the public a set of well-educated practitioners; but the practice of midwifery is still uncontrolled; and but too many are the fatal instances on record of the misery produced by the union of audacity and ignorance.

Having thus enumerated some of the faults in the mode of education adopted in England, and displayed some of the chief excellencies of the French and German schools, it may fairly be asked of me, how it arises that London possesses at this moment a greater number of truly celebrated men than any other city; so that what most astonished M. Roux, on his late visit to this metropolis, was the many persons who (to use his own phrase) are the representatives of surgery.

In France, lectures on every branch of medical and philosophical science, together with excellent museums and libraries, are gratuitously open to the student; the hospitals and clinical courses may also be attended without any expence: whilst, in London, the student is deprived of some of these advantages, and the expence necessarily incurred prevents his hearing the lessons or attending the practice of more than one profession. How, then, does it arise, that the number of eminent surgeons is so much greater here? What is there wanting in the French system, or what the peculiar excellence of our own, which serves to overbalance its faults? This question is difficult of solution; and I venture to throw out those few ideas which have occurred to me, not with a hope of solving the paradox, but from a wish to attract the attention of some one better able to elucidate the subject. I am inclined to regard the gratuitous mode of education pursued in France as a great evil, and the chief reason why truly great men are more rare there than here. The pupils who crowd the hospitals of Paris are mostly of the poorer and lower orders, devoid of the manners of gentlemen, and ignorant of the habits of good society. It is surely not to be expected that, amongst such men, many should be found anxious to acquire celebrity, or who bring to the study of the profession minds stored with the principles of philosophic science, or sensible of the importance and dignity of their pursuits. Emulation is a passion peculiar, I believe, to great, or at least to cultivated, minds, and is not generally

found in men taken from the lower classes of the people: yet such are the majority of the French students; and from such what can be expected? They study a profession, by the practice of which they hope to earn a livelihood; and, having obtained their diploma, they are much more intent on the means of procuring a subsistence than on the advancement of science, or the acquisition of posthumous fame. To the same cause may be attributed the low degree of respectability attached to the profession in general at Paris. Should any one there attain, by his exertions, a high degree of eminence, he will, probably, amass a large fortune,—probably be ennobled by a title,—probably, by his writings, benefit mankind, and secure to himself a posthumous reputation; but a respectable rank in society he can scarcely hope for. Few, very few, of the medical men of that capital move in the higher circles; nor can it be otherwise, as neither the birth, education, or manners, of the majority fit them for refined society.

Besides all this, there is a radical fault in the mode of education in France, of a most important nature; one which is enough to counteract many advantages. The students of Paris are taught every thing, except to think and act for themselves; their memories, not their minds, are cultivated; they are the mere servants of their masters, and, therefore, become merely their imitators; and, as they do not usually read any modern language except their own, and foreign medical works are rather scarce in France, their ideas are not enlarged by contemplating various opinions. In the hospitals, the surgeons visit the patients daily, dress them, and apply all bandages; the eléves only spread the plasters, and assist in applying them: even the eléves internes, who have nearly finished their education, do no more than this. I well know that we carry the opposite practice too far, and that patients in our hospitals are frequently left too much to the care of pupils but ill fitted for their situations: but this is only a fault of regulation; their qualifications should be ascertained before their admission. Yet the result of leaving the patient partly to the care of the pupil,—of allowing him to execute the orders of the surgeon,—of permitting him to prescribe in the absence of his master, and even to perform secondary operations,—is attended with this excellent advantage, that he is thus taught to apply principles as he learns them: he becomes interested in each case, and, partly responsible for its success, his powers of mind are developed, and his judgment constantly called into action. He criticises freely the opinions and practices of his teachers, and leaves the schools, not a theorist and a mere observer new to practice and undecided in his opinions, but one

already accustomed to judge and act, and feeling some confidence in his own powers. The French student, on the contrary, cannot be much interested in a case which he has nothing to do with, and on account of which his mind is not actively employed: he need not even reflect on its nature as he passes from the wards to the clinical lecture-room, where he hears its history, cause, &c. fully explained, and of course adopts the opinions of his teacher. Thus, then, the French system of education does not tend to produce great men, for it checks the growth of rising genius by opposing its exertion; yet, by the course of study adopted, and the strictness of the examinations, it effectually guards against the dangers arising from superficial acquirement, by making each student well acquainted with the prevailing principles. In London it is precisely the reverse; for, whilst the ignorant and ill-informed are too much allowed to trifle with their fellow-creatures, the high respectability of the profession, and the great consideration paid to men of talent, tend to excite in the minds of all classes a love of science, and an enthusiastic desire for its advancement.

In England, a medical man is a gentleman by profession; it is necessary he should be a gentleman in fortune and manners also; his company is sought in the best circles, and he is treated with a degree of respect proportionate to his celebrity. He does not often bear titles, but proudly considers the title of physician or surgeon superior to every other. Here, then, the whole system of education rests on the basis of emulation. The most attentive student is sure of receiving some mark of approbation, and men are excited to exertion by the knowledge that professional eminence is amongst the highest honours they can possess, and by an enthusiasm for the advancement and dignity of their profession, excited and kept alive by the consciousness that each man's rank in society, as well as his private fortune, depends almost entirely on his personal merit as a medical man and a gentleman. Almost every student who enters the profession brings to the study of it a mind filled with its importance, and delighted with its respectability; generally, too, a mind stored more or less with the preliminary sciences. He commonly belongs to the higher or middle ranks of society, and joins, to an admiration of his pursuits, a profound respect for his teachers. In such a mind nothing is more natural than a desire to excel. The anxious hope of acquiring a reputation fills his imagination, inspires him with courage to pursue his studies, and stimulates him to the greatest endeavours; he pants for fame, for reputation, because he well knows that honour, respect, rank, and fortune, are the consequences. How pleasing is it to observe

the wards of our hospitals filled with visitors; to see men of independent fortune, and surgeons who have grown grey in practice, crowd round the sick bed or the operating couch, with the same restless anxiety as the student who arrived but yesterday; to see persons of all ranks and ages, philosophers and philanthropists, practitioners and pupils, equally desirous of acquiring information, equally ardent for the extension of human knowledge and the relief of human sufferings. This truly interesting scene struck M. Roux with astonishment and admiration, because, as he was constrained to confess, it is very rare to see the French practitioner revisit the wards of a hospital.

Such is the present state of medical education amongst our neighbours and ourselves; and, to any one who for a moment reflects on it, it must be evident that our own system is by far too lax, and therefore requires amendment. That it would be easy to amend our system, so as to render it far more perfect, I shall endeavour to show; and I hope that some of those men who are now rendering their names so conspicuous in the annals of humanity, will think this object not unworthy their regard.

I am far from proposing that our hospitals, like those of Paris, should be under the direction of one Board of Control, and the pupil be allowed to visit all indiscriminately. Such an arrangement destroys that independence of action so necessary to the free exertion of talent; and the young student, who sees too many modes of practice, does not acquire any one correctly, but becomes a timid undecided practitioner; yet, when his principles are formed,—when he has passed through the prescribed course of education, and received his diploma,—the wards of every hospital should be thrown open to his inspection. Why should not the surgeon who resides in the neighbourhood of a great hospital be allowed the opportunity of improving his experience from so good a source? It is true that strangers are allowed to see operations occasionally at most of the great hospitals: but operations are but seldom required, and therefore but secondarily important to the general class of practitioners. It is in sitting by the bedside, and watching the changes of disease, that he can gain the most important information, and perhaps learn to avoid those bloody performances which are more or less the opprobrium of surgery. Besides, a too constant attendance even on operating days would generally be noticed, and at best it is a matter of courtesy, which places the visitor in some degree under an obligation. This should not be the case: an accepted physician or surgeon should have a right to attend the practice of any hospital. It is not to be ex-

pected that gentlemen will, after having finished their education, enter again as pupils, and pay again the customary fees; but the advantages which might result to science from allowing them free admission to the wards are incalculable.

I am equally averse to rendering education gratuitous. To sustain the respectability of the profession, it is necessary that those who belong to it should be of a certain rank in society, and therefore it is right that it should be attended with considerable expence: indeed, I doubt whether the study of surgery, as at present conducted, be sufficiently expensive or not; but, be this as it may, the difference in rank amongst pupils should by no means depend on money, but on merit only. Every student, on entering, should pay the same fee without reference to time, and be allowed to be considered a pupil until he shall have received a diploma. At the commencement of every six months, dressers should be chosen from the students by public examination, and should not be subjected to any additional expence on account of holding the dressership; the original fee paid by all students being so arranged as equally to remunerate the surgeons. A surgical clinical ward should be established in every hospital, to receive select cases; for this ward, clinical dressers should be chosen, by examination, from those serving, or who shall have served, the office of dresser. They should not only keep a register of all cases treated by the surgeons, but should have cases given to their own care, to manage publicly under the observation of their master. Besides all this, much might be done by the Royal College of Surgeons towards the advancement of science. Instead of a short course of fifteen lectures on Surgery and Comparative Anatomy, regular courses should be delivered annually of a nature rather calculated for the advanced student than the tyro; as Surgical Anatomy, Physiology and Pathology, both human and comparative, Surgery, and Medical Surgery. I should add Midwifery, which is properly a branch of surgery, but unfortunately, although connected with both branches of the profession, is neglected by both Colleges; and no examinations occur, no regulations exist, to prevent women, at the most eventful periods of their lives, falling a sacrifice to ignorance or stupidity. The lectures should be gratuitous, as they should not by any means interfere with private lecturers; and, for the same reason, no certificate of attendance should be given; but, in order that they might be worthy the body in whose theatre they are delivered, the lecturers should receive such salaries as would render the post worth the acceptance of the most celebrated persons. The superb Hunterian Museum should be open daily to unrestrained examination; and a public

library and reading-room should be added, where the student might freely resort to pursue his researches. If these additional advantages were allowed to pupils, something more might be expected from them, and each might be desired to compose a thesis previously to being examined; and the examinations themselves should surely be both more protracted and severe.

To carry plans like these into execution would, I hope, not be unworthy the Court of Assistants. In recommending them, I am actuated by a wish for the advancement of science, and a patriotic desire to render London the most perfect school of surgery in the world.

I have said little of medicine, because this metropolis is not, properly speaking, a school of medicine. It might, however, be well if the Royal College of Physicians possessed the power of conferring degrees in medicine, as that of Surgeons does in surgery; although it is pity that these branches of the profession cannot be combined, and the same course of study be pursued, and the same degree assumed, for medicine, surgery, and midwifery.

Fenchurch-Buildings; Feb. 20, 1819.

For the London Medical and Physical Journal.

Further Remarks on the Tying of the Human Aorta; by SAMUEL YOUNG, Esq.

AFTER a year's lapse, some observations, under the signature of C. R., very curiously entitled "An Examination" into my Remarks on tying the Aorta, published in the Medical Journal of March 1818, have just appeared in the Number of this month. I say, observations very curiously entitled "Examination," because it is really most curious to term that an *examination*, the whole tendency of which throughout is little less than a parasitical and declamatory attempt to establish a favourite position; and that, too, by the aid of unjust insinuations and perverted statements.

Had the gentleman, C. R., confined himself simply to the question, a very few remarks would have been necessary in reply. But, although he has chosen to entangle almost every line by observations to mislead rather than to illustrate, and given to the whole a tissue of personality, I shall not be led further than just what belongs to the disentanglement of truth, to the disavowal of unworthy motives unjustly attributed, and to that which naturally grows out of the present state of the subject.

One would reasonably imagine, by the opening of the gentleman C. R.'s paper, that something strongly personal in its nature was contained in my "Remarks on tying the Aorta" as connected with Mr. Astley Cooper's published account of that operation. But what is the undeniable and unavoidable inference in the face of facts, upon reference to those Remarks, and placing the two papers together,—that is, my paper on the subject (March twelvemonth), and C. R.'s paper on the same subject, of this month?—Why, that no ground whatever exists to authorize the language C. R. makes use of in the opening as well as other parts of his paper; such, for example, as the following:—"As a former pupil of Mr. Astley Cooper, and one among his numerous admirers, I lament that such ill-founded accusations against a gentleman, whose unremitting zeal in his physiological and pathological pursuits is so well known to the world, should so long have remained without refutation; and shall endeavour to show that, of Mr. S. Young's charges, some were founded on entire ignorance of, &c."

"Ill-founded accusations—charges!" What *accusations?* what charges? By such declamatory debating-club sounds, one would really imagine that I had been making a most serious attempt upon the purity of Mr. Astley Cooper's moral character: while, on the contrary, the *reality* and *truth* of the thing is, that these *sounds* of "unfounded accusations" and "charges" are *mere sounds*, the gratuitous creation of the gentleman, C. R.; as a reference to my paper in March twelvemonth's Journal amply and incontestibly shows. In all that paper, I repeat, there is not a *line*, a *sentence*, or a *word*, that can possibly authorize the most distant allusion to any thing like "accusation," whether unfounded or not; or one *single tittle* that bears the slightest resemblance to a "charge," or the feature of a charge.

In the paper alluded to, I dissented from general conclusions, not from any individual disrespect, but simply because I honestly felt that a very serious question, connected with the interests of society, was consequently involved; and I now repeat, that I still more fully do dissent, and most solemnly protest against the operation, as a generally-received expedient for inguinal aneurism, of tying up the human aorta, as inevitably destructive: destructive, not upon mere matter of opinion, but inevitably destructive to life, not only upon the common-sense observation of things, but as established upon those detailed facts of the operation as given by Mr. Astley Cooper himself.

Now, what has the gentleman, C. R., to say against this, but simply, "as a former pupil of Mr. A. Cooper, and one

of his numerous admirers," he is determined to support even his errors, if errors he have, at the expence of impartial statement, and that conduct which one gentleman owes to another. For what else, I ask, is the entire character of the paper under the initial C. R. but invidious and unnecessary personality, combined with the most culpable mis-statement.

The gentleman, C. R., is a lamentable instance of that intolerant spirit and dogmatical principle of the schools, which have opposed more difficulties to the progress of science, than even the obscurity itself in which nature lies veiled to the confined and very limited sight of human intellect. Every doctrine contrary to a favourite position, and every innovation, whatever its pretensions may otherwise be, which may militate against received or declared opinions, are by this spirit at once denounced as heresies, and the authors treated as calumniators or impostors.

Pupils too often become bigots, rather than the fair and honourable followers of their masters. Forgetting that the course of knowledge is progressive, they form their minds to a certain fixed faith, from which their own too-frequently very limited capacities will not suffer them to depart. They bask and dabble in the shallows, but never venture into the depth or height of their original.

It is here that the errors of eminent men become so truly mischievous, because they are *imitative*. In copies we find all the faults, but seldom, if ever, *the spirit*, of the master. In this feeling it was that I noticed what appeared to me palpably erroneous in Mr. Cooper's deductions on the tying of the aorta; and the gentleman, C. R., as one of his pupils, is an apt illustration of the necessity and truth of what I advanced.

The very language of the gentleman, C. R., shows how very necessary it was to "remind students that they have other duties to discharge as surgeons, as well as running about the country performing extraordinary operations, and tying-up of aortas;" for his mind is evidently typefied and possessed with this his favourite operation. He considers it what he terms "his *good fortune* to have witnessed the operation," and had actually, as appears by the date of his paper, got down as far as Bristol, no doubt to try his hand upon all that his "good fortune" might throw in his way.

The very gross personal allusions contained in the concluding paragraph of the gentleman, C. R.'s paper are unfair, as they are anonymous; but in every respect they are idle, declamatory, and (I might justly add) contemptible.

When I alluded to *eminence* and *celebrity*, I meant *that* obtained by honourable and able exertions in the pursuits of truth: I know no other eminence, nor acknowledge any other celebrity. With such a principle of mind, what can the eminence of Mr. Astley Cooper or any other individual affect me, but simply, for the good of mankind, I could wish it *more* instead of less?

Fulsome adulation at all times is odious, but, when coupled with the forfeiture of truth and justice, it becomes detestable.

As a specimen of fidelity in report and integrity of representation, the following statement of C. R. may be taken. "After the operation," says the gentleman, C. R., "the report goes on to state, that he (the patient) complained of pain not only in his head, but all over his body; his pulse was weak and fluttering; his fæces and urine passed away involuntarily; his body was covered with cold sweats, together with continual vomiting. Such is the condition of a patient in whom it is recommended by Mr. Samuel Young to open one or both jugulars."

Any who have read the report of this case, as published by Mr. Astley Cooper, and my remarks connected with the opening of one or both of the jugulars, must instantly detect a wilful omission by the gentleman, C. R., of those very facts on which my remarks entirely hinged; viz. —the evident surcharge of the blood-vessels of the head, as indicated by pain *more particularly* in his head, by the carotids beating with considerable force, and by the great anxiety expressed in the countenance. The following are the very words of the report itself, not cut, and fashioned, and garbled, with a total omission of parts, to answer the purposes of cavil and misrepresentation, but for fair practical deduction, faithfully transcribed verbatim from the notes of the case; viz.—

"27, at 7 A.M.—The report was, that he had passed a restless night; the vomiting had returned at intervals; his pulse 104, weak and fluttering; he complained of pain all over his body, more *particularly in his head*; [not as the gentleman, C. R., has got it, 'not only in his head, but all over his body,' but *more particularly* in his head;] and *the carotids beat* with considerable force. He had *great anxiety* expressed in the countenance, was very restless, and the urine dribbled from him with some degree of pain at the end of the penis." Such was the state of facts to which I generally alluded, when it appeared that there was no attempt to relieve the evidently overcharged state of the blood-vessels of the head during the life of the patient; nor

any inspection as to the degree of that overcharged state, or the condition of the brain itself, after his death.

I am sorry to disturb the self-complacency of the gentleman, C. R.'s physiological statements, but his reasoning on the retrograde course of the blood happens to be the very reverse to what really does take place under the application of the ligature; and, with all submission, I beg leave to make choice of facts as they really are.

It is stated by the gentleman, C. R., in way of refutation, that, "the ligature being situated three quarters of an inch above the bifurcation of the aorta, and consequently below the superior and inferior mesenteric arteries, if the whole mass of blood had been retrograded into the vessels above the ligature, surely those arteries situated *immediately* above the impediment to the progress of the blood would have been most gorged, and we ought to have found those parts supplied by the mesenteric arteries particularly tinged with blood; but the intestinal canal was not only free from inflammation or congestion, but remarkably exsanguinous, as were the other abdominal viscera."

Now, leaving to the gentleman, C. R., to dispose of what he pleases to term "my ignorance," as well as his own physiological wisdom, just in the manner it may best suit him, (for I will not contend the point, which is the more respectable of the two,) I have only simply to state that these observations about the mesenterics, unfortunately for his wisdom, are just the very opposite to what necessarily must, and what actually did take place in the case before us, whenever a ligature is tied round an artery of considerable size; viz.—that, by the re-action, or recoil, of the blood, in consequence of the ligature, upon its *own* current, an *equipoize* must necessarily be produced to a certain extent; and, as in the instance of the tied aorta, the blood contained in the arterial tube must *consequently* become a *stationary column*, to *a certain height*, *above* the *part* where the ligature is placed. Therefore, those arteries *immediately* situated above the ligature, like the gentleman, C. R.'s unfortunate mesenterics, must necessarily be deprived of their usual supply instead of being overgorged, as the current or tide of blood from the heart cannot reach them, in consequence of the repelling force,—i. e. the ligature,—*immediately* acting beneath them.

That such is the right theory of the formation of arterial coagula under the circumstances of ligature, is too palpable to enlarge upon; and what, indeed, must necessarily be produced,—i. e. a state of rest to a certain degree above the ligature, before any coagulum could form. That this

state of rest did take place above the aorta ligature is proved by the facts of the case: "a clot, of more than an inch in extent, was found to have sealed the vessel above the ligature." "All (says Mr. Astley Cooper) were gratified to observe the artery so completely shut in forty hours." The gentleman, C. R., bears evidence of the little supply of blood through the mesenteric arteries, by "the *remarkable exsanguinous* state of the intestines, as well as the other abdominal viscera." All proving the *stagnant state* of the aorta column, or at least its impaired and shortened current of blood, in consequence of the ligature; and necessarily showing the increased quantity that must inevitably be driven upwards through the carotids; and which "their strong beatings," with the other head symptoms of the patient, as already noticed in the case before us, most unequivocally establish. In short, without previous very copious bleedings, I feel convinced in my own mind that apoplexy would be the almost immediate result after passing the ligature round the aorta, in a man of any moderate state of health. In the individual instance before us, the man was almost drained to death by previous bleedings, and yet the symptoms evidently proved the very surcharged state of the vessels of the head after the ligature was made.

The observations of the gentleman, C. R., upon tying the femoral artery, are really so very vague and frivolous, so entirely from the point in question, that it is impossible to afford them the slightest serious attention. What have the known and familiar results from tying-up the femoral artery to do in comparison with passing a ligature upon the main aorta itself, where by necessity, as already shown, the carotids, with the subclavians, must be the only important outlets for the repelled current of blood; the portion between the curvature of the aortal arch and the ligature being, in consequence of the ligature, in a gorged and almost stagnant state?

"I would ask (says the gentleman, C. R., in reference to the state of the aneurismal limb,) what is the distinction between a limb assuming a cold and livid state, and the incipient stage of gangrene?" This, indeed, is asking a question with a vengeance. The difference, I humbly should imagine, is precisely that which exists between a thing that is and a thing that is not; an object expected, and an object effected; an accident that may take place, and one that has already happened; the state of a ship that may very possibly sink, and one already sunk; in short, just the difference between the existence of a low degree of animal life, and the absolute death of the part: but certainly not that palpable

distinction which exists between common sense and the gentleman C. R.'s question.

However truly absurd such a question may be considered by more reflecting minds, yet a very different estimation is held of it by the gentleman, C. R. He evidently not only considers it a most sapient, sound, and solid observation, but particularly happy and conclusive on the subject; for, evidently with a feeling of the most satisfied triumph, he immediately adds, "Mr. Young must have very extraordinary notions of the animal economy, if he can suppose that nature will not take cognizance of the circulation in a whole limb being permanently impeded, and can refuse to consider such circumstances as sufficient to derange, and at length destroy, the functions of the whole machine."

To such an observation I can only rejoin by remarking, that *the notions of the animal economy* must be still *more extraordinary* with him who, after *a ligature* has been passed around the *human aorta*, can *overlook* such a circumstance, and attribute the *cause* of death merely to a deficient circulation in an aneurismal limb, *the reported continued heat of which*, although six or seven degrees *under* that of the opposite member, was at $87\frac{1}{2}$.*

The labours of the gentleman C. R.'s paper end here, and further on its frailties I have only to assure the Journal, its readers, and the gentleman, C. R., that I will never again trouble them with a single syllable.

A few observations, however, since "the game's a-foot," may properly follow an apparent contradiction, which

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* The evidently distinct state of things which must necessarily exist by the slow and progressive diminution, by disease, of the aortal artery, in opposition to the *sudden* and *instantaneous* check to the *whole* current and *full impetus* of the blood in *such an artery* where a *ligature* is made, appeared to my mind so very obvious, that I felt to dilate on such palpable distinctions, in the present paper, as well as in those few cursory remarks made at the instant, which formed my paper of March twelvemonth, would only be a most unnecessary waste of time and occupation of place.

In a physiological point of view, to make such a comparison, and draw conclusions in favour of the aortal ligature, because that artery has been progressively diminished, or obliterated in parts, by disease, would be no other than to draw favourable results in consequence of *sudden* injuries of the brain; because, forsooth, nearly the whole of that viscus has been changed, obliterated, or removed, by the various and slow advances of variously-diseased accumulations or morbid growths and actions.

would seem to exist in the practical statement and conclusions of Mr. Astley Cooper himself on the present subject.

"At nine o'clock the same evening," observes Mr. Cooper (Essays, p. 118), "I saw him, and found him in so reduced a state, that he could not survive another hæmorrhage, with which he was every moment threatened: yet, still anxious to avoid opening the abdomen to secure the aorta near to its bifurcation, I determined to ascertain whether it was practicable to pass a ligature around the artery from within the aneurismal sac; for I was of opinion that, if the artery had given way near the centre of the sac, as it usually does in aneurism, I might compress it with my finger, and pass a thread around it. With this view, I made a small incision upon the aneurism, &c."

This attempt of Mr. Cooper's failed, in consequence of the entire expansion or loss of the artery in the aneurismal sac. This attempt was made, of course, *before* the great operation of tying the aorta. However, after this last operation,—i. e. the tying of the aorta, and reasoning on the state of the aneurismal sac, Mr. Cooper then immediately draws the following conclusion:—"In an aneurism, therefore, similarly situated, the ligature (meaning the ligature, of course, around the aorta,) must be applied *before* the swelling has acquired any very considerable magnitude."

Here a most serious predicament is evidently created: the author stands most fatally opposed against himself. Either the attempt to tie the artery in the aneurismal sac was right, and not an unnecessary precaution, or the practical conclusion for passing the ligature round the aorta at an *early period*, "before the aneurismal swelling has acquired any very considerable magnitude," must be wrong; or, if right, then it must necessarily stand fatally opposed and in open contradiction to all the precaution and waiting previously evinced and insisted upon by Mr. Astley Cooper.

As far as authority goes, wherein, then, lies the right practice in this case? On the one hand, we are told, by no mean authority, that the passing of the ligature around the aorta must be one of our early attempts; I say *early*, because we are directed to do it *before* the aneurism (or such or similar aneurisms as the one now in question) gets to any size; or, which is the same thing, "*before* the swelling has acquired any very considerable magnitude." And yet, on the other hand, but a few short pages preceding, as well as in the preamble to this aortal case, this same authority—and no mean authority, let it be repeated and re-echoed,—shows, by his great disinclination to open the abdomen, in having recourse to almost every expedient, (although, as he himself

states, another bleeding, which was momentarily expected, would have inevitably destroyed the patient,) the great risks and eminent hazard, even in his own mind, that must necessarily be run when such an operation is concluded upon as that of tying the human aorta: and yet, after all this, as already seen, in a few short pages, it is laid down by this same authority (without the necessity of any previous attempt or compromise being shown or hinted at) as a general rule of practice—that the aorta must be tied at the early stages of the disease; i. e.—"*before* the swelling has acquired any very considerable magnitude."

Now, I ask, in this state of palpable contradiction, where is the true line of practice to be found? If this is cavil, then I confess I know nothing of the principle of right argument, and give up all pretensions to fair and honourable discussion: but, on the contrary, I feel convinced that what has been here stated is a fair exposure of facts, the fallaciousness of which has gone to the countenance and establishment of that which would prove, if adopted, a most fatal practice.

Mr. Cooper, however, has taken his stand upon this case (whatever erroneous conclusions may have been drawn upon its issue) on the surest basis of right policy—" the do as you would be done by;" a sound, however awkward to some professional ears, which carries with it true wisdom, and is that which raises our profession superior to any in useful and honourable pursuit; as its absence debases it to the level of a mercenary traffic in human calamity.

" In the performance of our duty," says Mr. Astley Cooper, " one feeling should direct us: the case we should consider as our own, and we should ask ourselves whether, placed under similar circumstances, we should choose to submit to the pain and danger we are about to inflict." I repeat this great line of conduct as here detailed by the author, (a principle the most important through life, but most particularly so in connexion with our own profession,) because it is far more gratifying to dwell upon such manly exposition of the mind, than upon any error of judgment that may be formed upon it. This, indeed, is a precept worthy in us all of honourable and emulative imitation, and should sink deep particularly in the mind of the student, who but too frequently, after passing the necessary career of professional initiation, thinks, in the ardour of his pursuits, that, with a scalpel in his hand, he grasps the sceptre of surgery.

It is on this great principle of common justice and duty, which ought to guide all our actions, that I ask a reconsi-

deration of this sentence—" The aorta must be tied before the swelling has acquired any very considerable magnitude." Of this sentence, whether it be not founded on an error in judgment, as already insisted upon, I ask a fair, impartial, and ample re-consideration; at least, before it shall be so passed as a rule of practice.

There were two expedients, Mr. Astley Cooper tells us, tried before he thought of venturing upon opening the abdomen: the one, his endeavour to tie the artery in the sac; the other, the application of pressure upon the aneurismal tumor. Are such attempts, in similar cases, entirely to be deserted?

" Before the swelling has acquired any very considerable magnitude," instead of tying the aorta, how is it that Mr. Cooper has forgotten to tell us to tie the artery in the sac? There is surely a much better chance of meeting with the artery in this early stage than when Mr. Cooper attempted to tie it: yet this attempt was made in the very last extremity of the disease, before he thought of such a thing as the opening of a man's abdomen to get at the aorta itself: but now, in the earlier stages of the disease, when we say,—that is, when the fiat is passed—that the aorta must be tied,—then, indeed, it is not fitting to say a word about the artery in the sac, though the possibility of finding it in the one instance is here changed into every probability.

The fact is, we are *here* dazzled with a great operation, and we do not see things quite so clear as might be expected.

The other expedient adopted was that of pressure, although most improperly managed, as the names of the materials and the method of their application, with the consequent slough or ulceration of the integument, but too evidently show: such, for example, as a cushion bound down on the part, together with the use of the tourniquet, instead of uniform rolling of the limb and pelvis, and the *gradual* application of compress, until the aneurism at length is specifically commanded; and, where the aneurismal integument is much diseased and distended, the pressure, in the first instance, should be *general support only* until the parts are recovered and gained upon; for here the great object is to *preserve*, not to *slough* and *ulcerate*, as such things as the pad or cushion, with the tourniquet used by Mr. Cooper, most inevitably will produce; without, indeed, the integument is in a perfectly sound state, and but slightly distended.

Pressure, however, is surely most worthy of notice and

due consideration, before such an extraordinary effort is made as the tying of the human aorta; since pressure has been *known* to have effected the obliteration and cure of inguinal aneurism. Yet it is said, without the slightest consideration of these facts, that the aorta must be tied in the earlier stages of the disease,—that is, "before the swelling has acquired any very considerable magnitude;" in which state the chances are that the disease may be obliterated by pressure, or the artery very probably secured, in the sac itself.

I shall purposely avoid entering further into the detail of any method of practice for the disease in question, that the great point in debate may not be compromised. On the individual case and the operation, as given by Mr. Astley Cooper, I have already, a twelvemonth back, expressed my entire conviction, as grounded upon the facts of the case,—viz. that, viewed individually, and at the time it was performed, the tying of the aorta was the only thing left among the *last snatches* of *chance* to save the life of the patient; and that the operation was as boldly conceived as it was admirably performed. But further than this I do not go.

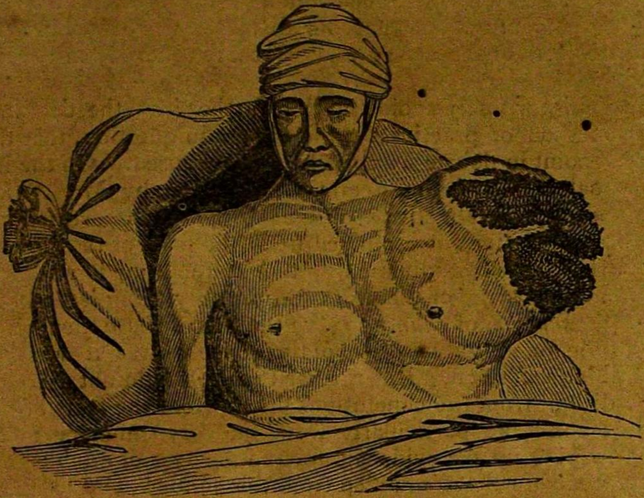
I dissent from the conclusions drawn from the facts of the case; and more particularly from the very summary mode of summing up the evidence, for the purpose of establishing an extended rule of practice from this solitary, and in many instances, inapplicable case,—viz. "that the aorta must be tied before the disease has acquired any very considerable magnitude."

It is on this point, upon the evidence and authority of facts, that I enter my most decided protest: on this ground, individually, I earnestly entreat a re-consideration of all the facts of the case. But more especially is it, viewing the relation betwixt the author and a believing and confiding public, that I request not only a re-consideration, but also a fair and full recantation, if an error of judgment should be found to exist; or, at least, if no such error even should be found, a further exposition of facts to authorize the adoption and extension of so extraordinary a practice.

Gerard-street;
March 15, 1819.

For the London Medical and Physical Journal.

History of a Carcinomatous Affection; by J. P. BALDY, Esq. Member of the Royal College of Surgeons; and one of the Surgeons to the Dock and Storehouse Public Dispensary, Plymouth.



IT has been said by some writer (no matter whom) that niches in the temple of Fame have no constant occupation; the contingencies of human events are in themselves so fluctuating and changeable. But, whether this be true or not in the common circumstances of life, certain it is in relation to what may be justly called, for the time, successful cases in the department of medicine or surgery; the celebrity obtained by them is a tenure, against which, of all others, the *quo warrantos* are most sure to be called forth.

It is a duty which I owe myself, as well as the whole body of diplomatic practitioners in the medical department, amongst whom your Journal is so extensively circulated, that I should recal their attention to a case of peculiar interest, which occupied the first pages of your work for November last, 1818. I refer to the history of JOHN TONKIN, on whom an operation was successfully performed for a carcinomatous* tumor affecting the os humeri. The

* There was an omission on our part in the appellation given to this case on a former occasion: it should have been—" a carcinomatous cartilaginous tumor," it having been so termed by the author.—EDIT.

plan of operation there observed, and the method subsequently pursued until the period of cure, when the patient was dismissed from the Dispensary in apparent good health, have been already stated in that report; it were needless to go over that ground again.

It appears from the records, that somewhat more than two months had elapsed from the healing of the wound, when application was again made by John Tonkin from pains he now felt in the stump; and I was not a little grieved to find, upon enquiry, that during this interval, from the time he was dismissed the Dispensary, he had been altogether inattentive to his manner of living, had been a subject of much intemperance, and more than once intoxicated: added to these circumstances, he had fallen, and received a bruise in the affected part.

I do not mean, however, to ascribe any thing more than the mere aggravation of disease to these causes; for subsequent discoveries have proved (as I shall hereafter plainly show) that the universal state of malady this poor man laboured under was of itself sufficient to terminate any life burthened with such accumulated morbific matter. I only premise, from the whole view of this case when taken together, that nothing which has occurred since I did myself the honour to transmit to your Journal the former statement can do away the impression of the correct treatment then observed, when both the operation and subsequent cure of the wound ended with so much success.

Recalling as much of your attention to the case of this man as may be needful to form an accurate judgment of what was, and what was not, connected with the original disease, I have to observe that, on the 13th day of August last, (a period of more than two months from the time of his cure,) I was called upon to visit John Tonkin, who complained of a considerable degree of pain in the stump, attended with an increased temperature of the parts.

I considered it a subject of some moment to ascertain whether any symptoms unfavourable had taken place since he left the Dispensary, and found a most satisfactory answer to my questions, that nothing had arisen unfavourable during the whole interval. He expressed himself as one who had been perfectly free from pain, and, in his own view, as good in health as in any former period of his life. I discovered, however, what I before observed of his irregularity of living, and that he had been occasionally overtaken (as he expressed it) in liquor; during one of which seasons he fell, and knocked his stump.

I judged it right to order an evaporating lotion to be con-

stantly applied, accompanied with a brisk cathartic; hoping thereby to lessen the tension and suppress all inflammation.

The following day, I found the purgative had fully accomplished its purpose, although the pain of the part was not lessened, and the heat rather increased than diminished.

Matters continued much in the same state until the 20th, when, on visiting my patient, I found the heat not so great, but the integuments below the acromion, as well as those covering the pectoral muscle, began to swell; but, as all these symptoms, however alarming, were unaccompanied with fever, there appeared no indication of any thing immediately to be done; I therefore recommended the constant application of the lotion, and waited the result.

The swelling continued to increase in size, but with little or no pain, until the 3d of October; when, early in the morning of that day, I was sent for in great haste on account of hæmorrhage. On examination, I found that an ulceration of the integuments had taken place, through which the blood was issuing in a stream, about the size of a crow's quill. Happily the bleeding was stopped by thick compresses of lint and bandage.

The disease, in the nature and extent of it, which had hitherto remained unknown, now developed itself, and in such characters as left no room to doubt of its being that formidable and incurable malady which Mr. Hey very properly has denominated Fungus Hæmatodes, although misnamed cartilaginous.

Throughout the whole of this day there was a considerable degree of fever; pulse 110; tongue coated; and a great dryness of the skin. I was again sent for in the evening, hæmorrhage having again recurred: the former plan was again resorted to with success, and the parts kept wet with a solution of alum.

The swelling under the acromion now assumed a very formidable appearance, and threatened to burst through the integuments every hour.

4th.—Fever still very high; pulse 141; tongue furred; great anxiety; but no pain in the tumor.

5th.—Had no sleep during the night; fever still the same; pulse 140. On removing the compresses, bleeding again ensued in a very large stream: it was again compressed as before, but the tumor had considerably increased.

In the evening I held a consultation of my colleagues, (for the first time since the operation,) the result of which was, that nothing in a curative way could be adopted; but, in case of hæmorrhage, where the compression did not succeed,

styptics should be employed. My patient this evening was very low; fever high; pulse 140. An opiate was ordered.

6th.—Had a very restless night; pulse 140; examined the tumor, found the ulcerative process of the integuments going on very rapidly; no hæmorrhage; dressed it as before.

7th.—Fever little abated; pulse 126. The dressings were allowed to remain as the day before.

8th.—Fever less; pulse 110; examined the tumor, the ulceration of the integuments still continuing.

After this, his general health began to improve; but the tumor continued to increase in size, with a great enlargement of the parts covering the pectoral muscle, till the 26th of October, when a large portion of integuments gave way, and left *in situ* a large fungus, from which constantly oozed a bloody serous discharge.

I pause here to observe, but with due deference to Mr. Hey's opinion in the case of Mrs. Dean, that the fungus, as it increases in size, does not render the integuments uniformly thin, as in abscess,—that in this instance it differed. The skin became of a dark-red colour, and uniformly thin, as in the case of abscess.

From about this time my patient's health began again to decline, and that rapidly. He had, indeed, to encounter many extraneous matters beside disease, all highly disadvantageous. Poverty is, for the most part, attended with a train of evils. The very situation in which he lived, in an underground room beneath the street, rendered the air damp and impure; and the fœtor from the wound formed a constant effluvia to add to the offensive atmosphere.

The fungus from this time continued to increase in size very rapidly, and resembled in appearance a putrid placenta, from which a serous bloody discharge continually oozed, sufficient in quantity to soak through the bed that lay under him.

November 12th.—About this period, the integuments at the lower part of the stump gave way, similar to the one above; and so rapid was this in its growth, that, by the 15th, a portion sloughed weighing three ounces. From the increased quantity of discharge, I was now obliged to dress him thrice a day, and at each dressing always a quantity of blood escaped.

20th; the last day of his life.—At ten o'clock I again dressed him, when the fungus appeared as if it would slough every moment. Vomiting now came on, so that he could not be supported up in his bed without being subjected to it.

At eleven o'clock I was obliged to dress him again, on account of hæmorrhage, as if from a sponge, to a very great extent. At half-past four o'clock I again dressed him, for the last time, when a portion of the fungus came away, weighing fourteen ounces and three quarters, unaccompanied with any hæmorrhage. He at this time had dyspnœa, and appeared sinking fast, having singultus and vomiting. During the evening, however, he spoke very cheerfully to his friends, but was getting lower and lower, when, at a quarter after eight, he expired.

So interesting a case furnished a most desirable subject for dissection, in which we were gratified upon examination.

The Appearances on Dissection.—On examination of the chest, we found the pleura considerably thickened, and the lungs slightly inflamed, but unattended with strong adhesions. The lungs were also studded with tubercles, of precisely the same consistence as the tumor. Between the fourth and sixth ribs, a whitish substance appeared, which, on cutting into, proved to be of the same nature as the disease. The abdominal viscera exhibited a healthy appearance, excepting the liver, on which was a tubercle similar to that on the lungs. The glenoid cavity was very much diseased. The tumor itself was of a soft medullary nature, not unlike the brain after being kept a week exposed to the air.

Having with great faithfulness stated the whole of this peculiarly interesting case, I shall now, with great cheerfulness, leave the decision to the judgment of that body of practitioners before whom this Medical Journal shall come.

There are several observations not a little singular with which this case was attended, which, no doubt, in common with myself, will strike the judicious and discerning reader. Desperate as the disease was in its early stages, it is very strange that so long a period of two whole months of apparent health and strength should have taken place, and actually to have suspended, during that interval, the progress of disease to the sure and fatal end. And it is equally wonderful, in the discovery made by dissection, that, during the whole of this formidable malady, notwithstanding the great pressure of the tumor, and the tubercles in the lungs, he had neither pains in the chest nor any difficulty of respiration, till within four hours of his death. And it is not the smallest circumstance worth noticing, that the ribs were not the least diseased, although the tumor lay completely on them.

In relation to the patient himself, his mind appeared to have been fortified both for the pains in the operation and

the several preludes of agony he passed to the grave; and, had he lived longer, young as he was, with lungs so diseased, a mutilated body, a disposition to disease in the viscera, and no prospect of maintenance from labour, whatever way he looked, the view would have been dark and gloomy. Cicero hath finely expressed it—"Nihil ei beatum cui semper aliquis terror impendeat."

Plymouth Dock; *March* 4, 1819.

P. S. I think it right to notice that an error was inadvertently made in my report of the consultation held on the above case, on the 15th April. Your readers will observe, it is there stated to have been the unanimous opinion that the tumor contained a fluid; whereas, I now learn from my colleagues who were present, that the existence of a fluid was only deemed *probable* from the great elasticity of the tumor, and that the prevailing opinion was in favour of an opening being made, which would relieve the patient from the pain of distension, in case the tumor did contain a fluid, and would enable us, perhaps, to judge more correctly of the nature of it.

For the London Medical and Physical Journal.

Observations and Reflections relative to the Treatment of Burns; by Mrs. HANNAH BARNARD, of Hudson, in the United States: *with some Remarks on them*, by Dr. SAMUEL L. MITCHEL, of New-York.*

To Dr. Samuel L. Mitchel.

Hudson; Oct. 6, 1818.

THE only apology I judge necessary for the freedom of this address is, that I believe I am writing to a gentleman, a physician, a philosopher, and philanthropist. I therefore take the liberty of stating to thee a discovery which I accidentally made about thirteen years ago, in which, natural philosophy had little or no agency, (whatever degree of it I might flatter myself with having previously acquired,) but by enabling me to trace back to the cause the unexpected and surprising effect.

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* We insert this article amongst our *national* Original Communications, in consequence of its not being strictly conformable in character to that which we desire the subjects comprised in our *Foreign Department* should possess. The space in our Journal required for the insertion of the observations of the enlightened Mrs. Hannah Barnard will, we consider, be well occupied: we only think it more proper that that space should be assigned from the part of it which is devoted to miscellaneous subjects.

I had burnt the back of my thumb, near the hand, a space perhaps less than the size of a dollar, which was nevertheless sufficient "to tie down my sore attention" to its smarting for two or three hours, while busily engaged in domestic avocations. At length, merely because I knew not what to do with it, I applied a plaster, compounded of Burgundy pitch, bees'-wax, and a little oil; which I had long kept in the house as a convenient application for slight wounds, and which I shall take the liberty hereafter more particularly to describe. I then went on with my work, and did not think of my burn again till about five hours after, when the singular circumstance of such complete relief excited an immediate investigation of the cause; which, as it appeared to me, was, first, the component parts of the natural covering, the skin, were so far decomposed or weakened by the action of fire as to render them incapable of bearing the application of oxygen to that part, without suffering a continued tendency to further dissolution, that the external application of a complete non-conductor gave the part immediate rest, and afforded nature an opportunity to repair the breach. By thus excluding the brisk action of oxygen, every tendency to inflammation from without was also fully excluded.

In consequence of the conviction resulting from this train of reasoning, I have never since made any other application to a burn or scald; and, by a continued series of invariably-successful trials, I am so fully confirmed in the rationality of the theory, that I now feel it an incumbent duty I owe to suffering humanity, the infant part of it especially, to use every effort in my power to give it publicity. And, though I flatter myself it will not be necessary to corroborate it by facts in order to obtain Dr. Mitchell's assent to the justness of my theory, yet it may be to some others, to whom thou mayst have the goodness to communicate it, from the same benevolent and compassionate motives which, I trust, have induced me to make this candid statement. I shall, therefore, now select three of the most prominent cases out of the many to which I have been witness, or which have been substantiated to me by what I consider unquestionable authority.

The first was the case of a young woman in our family, eight or nine years ago, who scalded her arm with a column of steam, which raised an entire blister on about one-third of its surface. I applied the plaster, and bound it up close: it gave her immediate and complete relief from any further suffering. She let it remain four or five days without opening, and pursued her work as usual. In little more than a

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week it was completely healed, and no inflammation ever appeared in it.

The second case was that of a child about a year old, in the summer of 1817, who was scalded with salt-meat broth on the breast and nearly the whole of the right arm. The father, whose name is Nichols, came nearly six miles to me for directions; having previously heard something about my mode of treating burns and scalds. This was the afternoon of first-day [Sunday]; and, before the week was out, he informed my late lamented brother-in-law, Richard Robotham, that, on the application of the plaster, the child went quietly to sleep, after suffering extremely during four or five hours; had a good night's rest; that the parts were nearly all healed; and the child had, through the whole process, been entirely easy and free from fever.

The third is a recent instance of its good effects in the case of a child of David Rogers in this town, about four years old, who was scalded on the 24th ult. We judged about one half the surface of the right leg was blistered; and, in the bend of the ankle, where the stocking was wrinkled, and held the heat longer, the flesh was destroyed under the skin, apparently more than the skin's thickness. The leg was immediately wrapped close in cotton, until the salve could be made and a plaster applied; which could not take less than three-quarters of an hour, during which time the child's suffering was extreme. In less than ten minutes after the plaster was on, she was perfectly easy, and in less than ten more was asleep; and has never since made the least complaint of smarting pain or soreness. Next morning the blisters were carefully pierced, on the under side, with a large needle, through the plaster and skin, when the water copiously flowed; after which the plaster was drawn a little closer and bandaged snug, but was not taken off till the third day, and then with great care not to break the skin, only with a large needle to let out the water, which had again accumulated. The leg was then, without washing, again enclosed in the plaster, after adding a little more salve where it appeared to be necessary. I attended it every day, merely for the sake of critically marking its progress; for the child had in its maternal grandmother one of the best of nurses, in whose skill and attention I placed the most entire confidence. About the fifth day there were plain indications of healing, by great part of the space ceasing to discharge. On the ninth the new skin was formed evidently over the whole. On the tenth the plaster was removed entirely, and the leg only wrapt in a cloth wetted with spirits, and a bandage applied, merely to shield the young skin from the

air, and prevent the child's taking cold after having the limb so much wrapt up. This day, the eleventh from the accident, the leg appears wholly free from redness, or even tetters, so common on the healing of burns which have suffered in their progress by inflammation to any considerable degree; and it has never been swelled at all.

I now respectfully request thee to inform me on the following points:—first, to what extent may a non-conductor be closely applied to the superfices of the human body, and yet leave sufficient space for the necessary oxygenation of the blood, through that source, to preserve it in a healthy state?—also whether, and in what degree, oxygen can be artificially increased through the lungs, with safety to that important organ?

With regard to the composition, I would just observe, that, though the pitch and wax are, as thou knowest, equally non-conductors, yet the pitch alone, even when softened with oil, is more adhesive than is necessary; the wax not enough so. I, therefore, allow one quarter or a little more wax, with a little lard, fresh butter, or oil, to soften the composition sufficiently, but not so as to cause it to melt away with the warmth of the flesh and admit the air, which would destroy its effect as a non-conductor. I then spread it with a hot knife on old nankeen, or any other close limber cloth: leather is not so good, as, on any moisture getting to it, when it afterwards becomes dry, it is apt to grow hard. If the skin is rubbed off in any part, I first cover the part with a little soft linen lint, and then apply the plaster close, and bandage it carefully, to secure it from slipping. I trust thy goodness will readily pardon my thus attempting to light a candle at noon-day; and, with requesting a line from thee when leisure from more important avocations permits, I subscribe, with high consideration and esteem, thy assured friend,

HANNAH BARNARD.

To Mrs. Hannah Barnard.

ON looking over my letters requiring answers this morning, I find yours to be one. I had very often heard of the writer as a person of extensive observation and enlarged mind: I now behold her as a physician and a philanthropist.

Pain is so great an evil, that I wish by every rational means to lessen its dominion. The facts stated in your communication are very interesting, and present the accidents of burns and scalds in a new aspect to me. Ice, cotton, spirit of turpentine, and various other remedies, were familiar to me; and, although I knew the employment of *cerate*, or a composition of bees-wax and olive-oil, for a

dressing for wounds or sores, I did not know that it could assuage the torment consequent upon accidents by fire.

These casualties are so frequent and distressing, that it is important that an efficacious and ready method of treating them should be known to the head of every family, as also to every medical practitioner.

The theory of the manner in which the plaster acts is ingenious, and I will add so probable, that I am not acquainted with a better. It is certain that the oxygen of the atmosphere is in contact with the whole surface of our bodies: it penetrates the windpipe and lobes of the lungs; it passes into the alimentary canal; and in all these situations it has more than a mere mechanical operation. The other effect to which I allude is chemical:—when the human body, or any part of it, or any animated substance, is heated to such a temperature as to attract oxygen, a combustion, more or less rapid, takes place: they call it inflammation; and, in this view of the subject, the term is very appropriate. If it be intended to repress the further accumulation and action of the caloric, the oxygenous part of the atmosphere must be kept away. A close application of an ointment or cerate does this: the part is protected from the assault of oxygen and caloric, and the consequent pain and anguish cease.

The analogy with inanimate matter is very strict: a piece of wood, when highly charged with caloric, may be kept from actual burning or decomposition by being separated from the oxygen of the air. In that case the fire is smothered, or does not kindle.

Why may not the interpretation apply to both cases? It has as much nice similitude as most of the theories we possess.

Permit me to conclude by an assurance of my great regard and esteem. SAML. L. MITCHEL.

For the London Medical and Physical Journal.

On the Treatment of Puriform Discharge from the Ear; by J. H. CURTIS, Esq. Surgeon-Aurist to the Prince Regent.

OF the diseases of the ear, one of the most obstinate and perplexing to practitioners is that attended with a puriform discharge, and so termed from this circumstance. The success of the practice I have adopted in this disagreeable and obstinate complaint has, I believe, been more fortunate than that obtained from the measures generally employed, if we may be allowed to form conclusions from the statements of the best authors on this subject. This

cannot be better illustrated than by the recital of a few cases selected from the records of my practice, in the order in which they have occurred.

Miss B. of St. John-street, aged 26, had been from her childhood affected with deafness and a puriform discharge from one ear. After having been under the care of several eminent surgeons in London for upwards of two years without relief, she applied to me. On inspecting the ear, I found the meatus much excoriated by the discharge, which was very profuse and offensive; the tympanum, I observed, was partly destroyed, as air could be forced out of the passage. In other respects the ear appeared perfectly sound. Adopting my usual plan of not stopping the discharge hastily, I ordered a blister to be applied behind the ear, which was kept open for a fortnight; after which the patient used an injection of zinci sulphas; but this not appearing to have the desired effect, I had recourse to the argentum nitratum, as recommended by Mr. Saunders in cases of this nature. The patient began by using ten grains in four ounces of water, and I increased it to the extent of thirty-five grains, which completely healed the parts; and I had the farther satisfaction, at the same time, to find her hearing restored. It may be necessary, perhaps, to mention that it took nine months to complete the cure.

A similar case of a young gentleman yielded also to this treatment; but his case, though not of so long standing, I at first sight considered more difficult of cure, from his having a polypus extending directly across the meatus, which I removed by an instrument I had constructed for the purpose. Immediately after the operation he was able to hear, but the discharge continued for some time, though at last it was happily entirely suppressed.

Another case of the same nature occurred in a lady, who was sent to me by a physician, whose hearing was defective in both ears, in consequence of a puriform discharge. This case yielded in a short time to a varied combination and change of injections, consisting of solutions of zinci sulphas, plumbi superacetas, argentum nitratum, cupri sulphas camph. joined occasionally with camphor and opium.

A great number of cases of a like description have come under my observation, as already stated, at the Royal Dispensary, and have yielded to a similar plan properly persevered in for a length of time.

The above cases, I trust, will sufficiently prove that diseases of this nature are frequently curable, when a proper plan of proceeding is persevered in.

2, Soho-square; Nov. 5, 1818.

COLLECTANEA MEDICA,

CONSISTING OF

ANECDOTES, FACTS, EXTRACTS, ILLUSTRATIONS, QUERIES, SUGGESTIONS, &c.

RELATING TO THE

History or the Art of Medicine, and the Auxiliary Sciences.

Quicquid agunt medici,
nostri farrago libelli.

Anatomico-Physiological Examination of the Medicinal Leech; by HENRY LEBRECHT KURZMANN, M.D. Physician to his Majesty the King of Prussia, &c.

(*Continued from p. 314.*)

AT the upper rim of the œsophagus, or rather more upon that part of the inner surface of the general muscular coat just below it, three rows of teeth are found standing at equal distances from, and forming an angle of 120 degrees to, each other. Each row has two skinny parietes, or lateral surfaces, which, from a broad basis in front, join each other over a sharp dented arch in such a manner that the points of that arch pass through them. The inner space between these parietes is filled with minute fleshy particles, probably constituting the muscles requisite for moving these rows of teeth. In order to obtain a clear view of the shape of these teeth, an incision must first be made with a sharp knife through the skin that covers them, along and at the side of the sharp edge on each side, down to the general muscular coat; then they are to be separated from the body by a transverse incision at the bottom of the row; then, without either squeezing or distorting it, the row of teeth thus separated is to be placed on a plate of glass, which, on being fixed under a microscope, must be exposed to a strong light from below. In young leeches, not yet arrived at their full growth, these teeth are merely small points fixed on the convex rim of the arch, and somewhat bent, corresponding with the convexity of the same. In old and full-grown leeches, they stand in the arch as single teeth, forming one whole in conjunction with it. Each tooth consists of a straight cylinder, with a blunt point, constituting about a fourth part of the whole length of the tooth, projecting over the convex margin of the arch. Sixty or seventy such teeth are always found in each arch. As for the rest, Dr. K. could never observe in them, even in a dry state, such a degree of hardness that could enable them to wound the skin; for which purpose they are likewise too small and slender.

Immediately behind the œsophagus the alimentary canal com-

mences, and consists of the simple white coat that lines the inner surface of the œsophagus. In order to obtain a plain aspect of the same, a leech, which is neither too old nor too thick and void of blood, should be selected, and, after being stretched out to its utmost length, fastened with pins upon a plate of wax at its upper and lower end. This done, it should be cautiously opened along the back, so that its flapping inwards be prevented, by laterally bending the skin outwards directly as it is opened, and fastening it with pins from one half inch to the other. In this manner, a view of the whole uninjured alimentary canal, running in a straight direction from the œsophagus to the caudal part, is obtained, and found to consist of the stomach, the two coeca, and the rectum.

The stomach occupies two-thirds of the whole length of the animal, and consists of nine divisions lying one behind the other, each of them having an appendage on each side, running like a small tapering canal towards the sides, losing itself at the abdominal part into a number of fine threads, which then consolidate with the external coat. Between each two divisions, the stomach contracts itself in such a manner as to leave only a round opening of not quite a line in diameter, exactly fitting the opening of the next contraction; thus forming a straight passage from the œsophagus to the place where the coeca branch off. On the belly-side, the stomach is every where consolidated with the subjacent parts, by which its examination from the side is rendered more difficult than from the back.

From the last division of the stomach a canal, a line in length, issues forth, from which a coecum branches off on each side; which, making first a lateral bend of three or four lines in length, soon join each other inseparably, and run, with more or less considerable distention, down to the caudal end of the animal.

Towards the back, in the hollow between the coeca, the rectum has its situation. When the leech contracts itself, the under part of one division of the stomach touches the upper part of the succeeding one at that point where the opening exists between them; so that nine successive divisions are formed, running along the body, separated by thin partitions, with an opening in the centre, giving the whole a cellular appearance. This may be plainly exhibited by inflating a dead leech, by means of a tube introduced into its mouth, then drying the same, and afterwards opening it lengthways on the side with a sharp knife. The rectum, which already distinguishes itself from the white skin of the intestinal canal by its brownish colour, consists of a somewhat stronger membrane than the stomach, and, in the extended state of the animal, runs in a straight, but in the contracted one in a serpentine, direction, in the middle of the body, partly between and partly over the two coeca, towards the anal orifice. At its commencement appears on each side a strong hollow knob, the cavity of which, on account of its thick skin, is but small. The inner surface of the rectum, full of small plaits, running in a slanting circular direction, thickens at the distance of some lines from the anus, seeming to

form a sphincter; then enlarges again, and presents a smooth ligamentous tube. It is always filled with a blackish-green fluid, which, on pressure only, issues from the anus. Immediately below the place where the coeca issue from the stomach, a canal makes its appearance between them, tapering at the lower end, being three lines long in its greatest dimension, and inserted between the two knobs of the rectum. On the inner surface of the same, single muscular fibres are found running lengthways, approaching closer to each other towards the rectum, and consolidating between the two knobs. Single threads turn sideways, and join the inner surface of the knobs; the skin of the canal passing over the outer surface, joins the rectum. The adhesion of the muscular fibres in this canal is so close, that it is impervious even to the air; so that, indeed, a connexion, but by no means a communication, exists between the stomach and the rectum. The separation of the excrements from the alimentary matter seems thus, by the total want of all other organs, and that of a proper communication with the stomach, probably to take place in the above-described canal, and in the two knobs of the rectum. The smallness of this organ in proportion to the largeness of the stomach, and the quantity of alimentary matter contained in it, doubtless contributes a great deal towards the exceeding slowness of the digestive process in this animal. A leech, thoroughly filled by suction, still contains blood in its stomach after a lapse of two years and a half, which has still the same slimy consistence as shortly after suction. This sort of leeches, however, lives (according to our author's observation) exclusively on blood; whereas, the horse-leech, or hirudo-sanguisuga, lives on worms and dead animals macerated by water.

In the act of sucking, the leech proceeds in the following manner:—with its upper-lip far distended in the shape of a spoon, which is enlarged by the under-lip extended latitudinally, it drops upon the spot to be sucked, closely pressing its rim all around; then, contracting its body to the utmost, it fills up the space confined by the rim of the lip, with the inner surface of the oral cavity, in particular with the two plaits, forcing the little air still left beneath the lips back into the body. This done, the animal raises the fore-part of the body a little, as if it was going to let loose, yet remaining hanging firmly by the lips; a vacuum arises, into which the skin is forced; then, inflicting a triangular wound with its teeth, it completes the operation of the cupping-glass. Whilst the blood is flowing, the leech remains quite immoveable; only in the region of the œsophagus a sucking motion is perceived, propagating itself through the whole body, by which the blood is forced into the hindmost division of the alimentary canal. In this manner a full-grown leech, void of blood, can take about three drachms and a half at the utmost.

The leech is unquestionably hermaphrodite, uniting in itself both parts of generation, and requiring a reciprocal fecundation. These parts are seen plainest on opening the animal at the back, and removing the stomach, beneath which they are situated.

The male generative organ, or penis, that opens on the abdominal parts between the 24th and 25th ring, may be divided into the sheath and the proper penis. On dissection, the sheath alone is perceivable, consisting of a globular and a cylindrical part, the whole of which has not quite two lines in length. The globular part of the sheath consists of a smooth strong white membrane, easily divisible by the knife into laminæ; on the outer side divers small blood-vessels may be observed, and on the inner one strong muscular fibres closely adhering to it, and running in a straight direction from the fore-part backwards, ending near the cylindrical part. The back-end of the globular part is continued into the thin cylindrical one of the sheath, which latter consists of a pretty firm though simple membrane, a line long, running in a straight direction backwards, bending at the lower part, and running again forward under and close to the descending part, and opening at the belly-side of the animal. At the inner rim of the opening of this cylindrical part, it is surrounded by a second very slender tube, consisting apparently of a single, though very firm and almost tendinous, membrane, which is the proper penis. It runs on backward in its sheath, finely winding in a serpentine manner in the cylindrical and the globular parts; in the latter of which it forms, besides, divers large windings, terminating in a round, white, firm, and almost cartilaginous substance, consolidated with the fundus of the globular part of the sheath. Thus, the penis is consolidated at both ends with its sheath, but, from its serpentine and bending situation, has a far more considerable length than the latter, over which it, on issuing, projects double the length: it is capable of a considerable degree of extension, perhaps of an inch and more, and tears with a cracking sound. If, in a leech opened alive, this sheath is irritated by the point of the knife, it raises itself without sensibly altering its bend, and shows considerable elasticity on being touched with the knife; but never did Dr. K. observe any projection of the penis, as is the case in the horse-leech. When, however, this organ projects from the body, which commonly happens a few days before the expiration of leeches that die in confinement towards the close of the winter, the same elasticity is observed.

On projection, the penis is inverted, so that the inner surface of the cylinder becomes the outer one. When a leech is killed with hot water, the penis projects. On opening the leech at the back, and cutting the globular part of the sheath lengthways, and then pulling the cartilaginous substance in the fundus of the same, the penis may be pulled back into the body, and may be plainly seen to turn back again. Close to this organ lies, on each side, a white yellowish substance, the left of which is larger than the right one: these probably constitute the testicles. On each of them a convex and a concave rim is discernible; the former being turned towards the penis, and the latter, which has more or less incisions, turned outwards. Each testicle ends in front in a broad basis, and backwards in a point. On the basis a canal is distinctly observed,

which, originating in the concave rim, runs over its base; then proceeds beneath the globular part of the sheath, enters into its under surface in front, and loses itself in the round cartilaginous part on the fundus, sideways, forward, and upwards, from that point where the penis joins it. The skin of this canal, which is the spermatic duct, is very strong, and may be divided in layers. The testicles are covered with a very thin skin, on which, by means of a magnifying glass, blood-vessels may be discerned. In their interior are several windings of a pretty thick vessel, filled with a thickish white fluid, difficultly mixible with water. This vessel ends on one side in the funiculus spermaticus, and on the other, from the point of the testicles, it runs backwards into a fine vessel, consisting of a very fine white skin, continuing on each side of the body till about the region of the 75th ring. Along each of these vessels there lie inwardly, at an equal distance, nine roundish white substances, as big as a pin's head, each of them connected with the principal vessel by means of a short one, of an equal condition and strength; and it is only in the last of these substances that the principal vessel itself does enter directly. These substances consist of a moderately strong skin, through which windings, like those of the testicles, faintly appear; which make it probable that the thickish fluid they contain is, like that in the former, enclosed in a particular vessel. This fluid mostly has, during the winter, summer, and autumn, a white thickish consistence; but, in the spring, a more brownish and watery one. If these small substances, with their common canal, are to be considered as a continuation of the testicles, each of the latter takes up almost two-thirds of the whole length of the animal. In little leeches, not yet arrived at their full growth, the penis is of an equal proportion with that of full-grown ones; but the testicles and the nine pair of roundish substances are proportionably smaller, and the latter are of a red appearance. The uterus is quite isolated, unconnected with any other viscus: its opening appears on the belly side, between the 29th and 30th ring. From this opening a skinny, pretty wide, canal, runs on in front, which, enlarging into a proportionably large bag that passes upwards in front, bends a little to the right, gradually growing broader, but contracting itself again a little at the bottom, and thus forming the proper uterus. At its fundus an appendage is found on each side, that on the left being larger than that on the right, forming a closed small cylinder, lying in a double bend on the fundus. The right one is but a roundish knob. The inner surface of the bag is covered with visible, yet very small, muscular fibres, that run from the fundus and the appendages along the inner surface, and lose themselves in the opening. In its cavity a milky fluid is found, which is easily miscible with water; thus distinguishing itself from that contained in the testicles. In not full-grown leeches, this bag is in proportion exceedingly small.

(To be continued.)

Collection of rare and interesting Cases in Anatomy and Physiology.

(Continued from p. 311.)

Super-Fœtation.—Pliny, the naturalist, relates an instance of a female slave who produced twins, one of which resembled the master of the slave, the other another man with whom she had had sexual connexion. This fact, although it might lead to the suspicion of the possibility of *super-fœtation*, still it would by no means demonstrate it: that quoted by Buffon is more conclusive. In the year 1714, a woman of South-Carolina, when in bed, was approached by a negro, who, with a poignard in his hand, obliged her, by violent menaces, to submit to his sexual desires: nine months afterwards she was delivered of two children, one of them black, the other a mulatto. This being at that period a singular case in history, might be considered as doubtful; but a similar instance has since occurred, to support it, and apparently to prove the possibility of super-fœtation. M. Delmas, a surgeon resident at Rouen, relates that a woman of that city, thirty-six years of age, was delivered at the hospital at Rouen, on the 26th of February, 1806, of two male children, one white, the other mulatto. This woman had been pregnant eight months; the two placentas, united in the manner generally observed in the case of twins, were expelled within a few minutes after the birth of the fœtuses. The woman lived with a white man, but she had twice had connexion with a negro about the time when she believed herself to have been pregnant four months. The infants lived but three hours. A woman of Arles produced, on November 11, 1796, a female infant, apparently at the full period of gestation, which lived seven months. The lochiæ were suppressed on the fourth day, and no milk appeared in the breasts, although measures were taken to solicit it, from the desire of the mother to suckle her child. Six weeks after her delivery, this woman, with much surprise, felt the motions of a fœtus in the uterus; but, recollecting that she had cohabited with her husband four days after her accouchement, she considered that she was pregnant from that period; but this conjecture was found to be incorrect, by her giving birth to another female child, of the full growth and development, at the termination of the fifth month from that of the former. The milk now appeared in her breasts, with which the mother suckled both her children. This fact is attested by two medical practitioners.

Baudélocque relates, in the second volume of his Traité de l'Art des Accouchemens, a case of super-fœtation observed, in 1780, by Doctor Desgranges, of Lyons. On the birth of the first infant, the discharge from the uterus ceased immediately after delivery; no milk appeared in the breasts; and the belly remained more voluminous than ordinary. Twenty days afterwards this woman admitted the caresses of her husband, and a few days afterwards she felt the motions of a fœtus in the uterus. After the

lapse of a hundred and sixty-eight days from her former accouchement, she gave birth to a full-grown infant; so that it is apparent that this was conceived about seventy-two days after the former. Both of the children were living in 1782.

An instance is related, in the *Medical Museum* of Philadelphia, of a white servant giving birth at the same time to two infants,—one white, the other black. The author, no doubt, meant to state, that the latter was a mulatto; because, if it had been a black child, it should be considered as a case of disease of the skin, an instance of monstrosity, not the offspring of a negro.

These facts, and many others that our limits oblige us to pass over in silence, seem to prove that super-fœtation, although a rare, is yet a real phenomenon. Those physiologists who still deny its possibility endeavour to account for births occurring at periods too remote to admit of their being referred to the same period of conception, by asserting that it can only be explained by the existence of a double uterus, or by a division of that organ into two cavities; circumstances which anatomical investigation has shown to take place. Those who believe that super-fœtation may happen in the ordinary state of the uterus, may support their opinion by the case of the woman of Arles, in which the two placentas were united together by their broad surfaces, which could not have happened had they not been formed in the same matrix. The cessation of the lochiæ, which was observed in this as well as in that related by Baudélocque, tends to prove that the two fœtuses were contained in the same cavity.

We refer our readers to the twenty-second, twenty-third, and twenty-fourth, volumes of the London Medical and Physical Journal for some further observations and reflections on this subject.

Admonitory Reflections on the Manners of a Physician. [From the Περὶ Εὐσχημοσύνης of HIPPOCRATES.]

BE affable; for, if austerity is repulsive to those who are in health, it is still more so to those who are suffering from disease. Do not amuse yourself with long discourses before ill-informed people, but speak of those things with precision which are strictly necessary to their welfare. Before you visit sick persons, remember what is to be done: it is comfort and alleviation of their afflictions which they require, not verbal arguments. On entering their chamber, do not neglect either the manner in which you take your seat by them, the arrangement of your dress, or your personal actions and behaviour. Remember that you are invested with a real authority. Let your answers be short and precise. Maintain a state of calmness amidst the trouble with which you are surrounded; and be ever ready for prompt and judicious exertion of your aid. In serious cases, be diligent in your attendance, that you may witness the important changes of the disease, and promptly remedy any errors which may have recently occurred.

CRITICAL ANALYSIS
OF RECENT PUBLICATIONS,
IN THE
DIFFERENT BRANCHES OF MEDICINE, SURGERY, &c.

Transactions of the Association of Fellows and Licentiates of the King's and Queen's College of Physicians in Ireland. Vol. II.—8vo. pp. 602.

(Continued from p. 323.)

VII.—*An Account of the Extirpation of a Tumor of the Neck, engaging the Parotid Gland*; by RICHARD CARMICHAEL, M.R.I.A.

THIS is the history of a case, of which such an abstract as our limits will admit of would convey but little useful information. We shall, therefore, merely observe, that it was a sarcomatous tumor, of firm structure, situate behind the ear and angle of the lower jaw, nearly five inches in diameter, engaging the parotid gland, and attached to the basis of the skull between the mastoid and styloid processes, and to the transverse process of the first cervical vertebra; that was removed by an operation, the difficulties attendant on which were only exceeded by the dexterity with which it was executed. There are two indications of considerable practical importance furnished by this case:—1, that, in removing tumors situate like that to which we allude, a ligature should be passed under the trunk of the carotid artery in the first instance, to be tightened if requisite; for, from placing reliance on the powers of the fingers of an assistant for the compression of the artery in this case, the patient was in imminent danger of losing his life from hæmorrhage;—2, that low delirium, with capability to reply correctly to short questions distinctly proposed, accompanied with quick and weak pulse, inquietude, and a disposition to be rising out of bed, coming on after long and painful operations, may be promptly relieved by wine and opiates. These are amongst the reflections deduced by Mr. Carmichael from the history of this case.

VIII.—*A Case on the Use of Turpentine;* by WHITTOCK NICHOLL, M.D. F.L.S. &c.

This was a case of melæna, apparently arising from irritation and diseased secretion from the mucous membrane of

the intestinal canal, affecting a girl twelve years of age. The turpentine was exhibited after the black colour of the stools had disappeared, but when morbid irritation still seems to have existed. One drachm and a half of oil of turpentine, in six drachms of syrup of tolu, was given as a dose; two hours after the same was injected as a glyster, and half an ounce of castor oil given by the mouth. The symptoms "vanished as by the force of magic, and the patient rapidly recovered her health."

IX.—*A Case of Angina Pectoris;* by the same.

This case terminated fatally, after having existed about two months; but, from the want of examination after death, it is not calculated either to excite much interest or to contribute to our knowledge respecting the nature of that affection.

The same paper contains an account of a case of apparently chronic inflammation of the heart, in a man, aged about 30. James's powder, ipecacuanha, and calomel, were exhibited for a few days, and blood-letting was once employed, without much evident benefit; when a seton was made over the region of the heart; a grain of opium and digitalis were also directed for him, to be repeated after intervals of a few hours. The patient, the next day, said, that

"From the moment of the insertion of the seton he entirely lost the pain in the heart; that the palpitation had scarcely returned, and the medicine procured sleep and quieted him. Strict and entire quiet of body and mind, with abstinence from all nourishing or stimulating diet, were rigidly adhered to.

"October 7.—No symptom, but debility.

"Nov. 10.—Seton removed.

"12th.—Had cold sweats since the removal of the seton, which disappeared after his having recourse to a small dose of salts repeated daily. His pulse maintained, when I last saw him, which was in the middle of November, its full prominent character; and, although he called himself well, he was nevertheless unfit, in my opinion, for any situation which called for any degree of exertion. I have just heard (February 8, 1818,) that he has been tolerably well ever since I saw him, but that he is subject to returns of palpitation."

X.—*Case of Sarcoma or Polypus in the Colon;* by EDWARD PERCIVAL, M.B. M.R.I.A. &c.

The subject of this case, a child, aged twenty-one months, died in consequence of constipation of the bowels, which had been coming on gradually for about five weeks.

"Some livid patches were found on the colon, and some extent of inflammatory appearance on its villous coat, about the middle

of the intestine. Here the gut adhered on all sides to a firm tumor, about the size of a hazel-nut, forming a complete cul-de-sac. On separating those parts which adhered by recent inflammation, an excrescence was discovered, of glandular texture, deeply seated in the parieties of the intestine. Its external hue was dark or livid; its internal colour bluish grey. At the base of this tumor a small cavity and ulcer appeared, which had nearly eroded the tunics of the gut.

"The rectum was contracted in its capacity, empty and clean.

"Compare Morgagni Ep. xxxi. 21; Portal Anat. Med. tome v. p. 243; Monro's Morbid Anatomy of the Gullet and Stomach, p. 190; Baillie's Morbid Anat. p. 193."

XI.—*Two Cases of Inflammation and Enlargement of the Pancreas;* by the same.

This is a paper of considerable value; for, although the disease of which it treats is not of frequent occurrence, yet, as Dr. Percival remarks, the difficulty of ascertaining the condition of this organ by any other symptoms than such as are secondarily manifested in the stomach or liver, must render our opinion on many cases uncertain, and our practice erroneous.

"When pain and tumor of the pancreas (says the author) are mistaken for inflammation of certain parts of the liver, the remedies of depletion, which are applicable to both, may resolve the disorder, before the error of diagnosis is discovered. But a more obvious and fatal error may arise from confounding the pain and jaundice caused by the pressure of an inflamed pancreas upon the ductus communis choledochus, with spasm or calculous obstruction of that canal; and it is chiefly with a view to obviate this mistake, and its consequences, that I offer the following cases to the notice of the Association."

In one of the cases that occurred to the observation of Dr. Percival, which terminated fatally,

"On examining the abdomen, the pancreas, greatly enlarged, was found occupying the place of the tumor before felt in the epigastrium. The ductus communis choledochus was imperforate in the parts adjacent to the pancreas, and where its pressure had been greatest. The gall-bladder was full, and the cystic duct pervious; the substance of the pancreas was scirrhous, and, on being cut into, was found to contain a considerable abscess. The kidneys were sound, but the liver was much diseased.

"A case of scirrhous pancreas, which illustrates some points in the foregoing histories, is related by Mr. Todd in the first volume of the Dublin Hospital Reports, &c. art. xiv. The reader is also referred to a paper by Dr. Latham, in the 11th volume of Transactions of the College of Physicians, art. v. which contains some very just observations on the diagnosis of abdominal tumors."

We shall transcribe the account of the case which terminated favourably, as it will point out the diagnosis of this disease, and the medicinal measures likely to be most beneficial.

"An elderly gentleman, inclining to corpulency, was frequently seized, in the last autumn, with acute pains in the epigastrium, attended with soreness and tumor of the parts, and followed by jaundice. His medical attendant prescribed cordial draughts and mercurial purgatives, which relieved, but did not remove, the urgent symptoms. After some weeks, the patient began to experience an obscure pain in his chest on making any bodily exertion; but it was unattended with cough or any difficulty or disturbance of the respiration. As this pain or uneasiness appeared to be associated with the distress in the epigastrium, a blistering plaster was applied to the latter part with much benefit: neither local nor general blood-letting had been resorted to.

"On the 16th of November I saw this gentleman, two days after his arrival in Bath. His complexion was dingy, and yellow about the eyes; his tongue much furred; his urine scanty and high-coloured; his pulse, in the morning, did not exceed 78 strokes in the minute. On viewing the epigastrium, I found it prominent, especially in the central part, between the umbilicus and scrobiculus cordis. The verge of the liver was pretty clearly ascertainable, bearing free pressure, and betraying no sign of organic disease; but detached from this organ, in the gastric region, was an unusually dense mass, tender to the touch, and yielding slowly on pressure. The gentleman complained of chilliness in an evening, and his flesh and strength were much wasted. Eight leeches applied to the epigastrium bled copiously, and produced some faintness. The tumor and tenderness were considerably reduced; the urine became free and of natural appearance, the pulse fuller and softer; and the patient expressed himself greatly relieved from his oppression. A vesication on the same parts, kept open for ten days, with the use of saline aperients, an occasional warm bath, and a restricted diet, so far restored the patient, that he assured me he had not, for a long time, felt himself in such good general health. Still a tumor and hardness were discernible in the epigastrium; until a spontaneous diarrhœa occurring, it shrunk rapidly in its dimensions, and before the expiration of a fortnight (Dec. 8th) entirely disappeared.

"It is deserving of remark, that, in the progress of this subsidence, the tumor assumed a more distinct form, like the smaller extremity of an egg, and preserved this shape till it could no longer be felt.

"Some slight vestiges remained of the obscure pain or uneasiness in the chest on making any unusual bodily exertion, or sometimes even in walking at a gentle pace; but neither the pulse nor the respiration were, in the slightest degree, affected under these circumstances."

Dr. CRAMPTON also adduces two cases of a similar disease; one of which terminated favourably, by the use of measures similar to those employed by Dr. Percival; the other ended fatally. The morbid appearances were analogous with those related by Dr. Percival.

In the 25th volume of our Journal, an instance is given of death ensuing from rupture of the gall-bladder, consequent on the obstruction of the ductus communis choledochus from an enlarged and indurated pancreas.

XII.—*Clinical Report on Dropsies;* by JOHN CRAMPTON, M.D. Honorary Fellow of the King's and Queen's College of Physicians, &c. &c.

This Memoir contains an extensive series of facts of the most interesting nature in themselves, and of which the value is much increased by the clinical reflections of Dr. Crampton, which are deduced from very accurate observation and the most correct and enlightened physiological views.

The cases related by Dr. Crampton are seventy-five in number, being all that were admitted into Steevens' Hospital during one year; a correct history of a certain number of cases occurring within a given time, without regard to choice, being best calculated to add to our knowledge respecting the most frequent character of that form of disease.

This Memoir of Dr. Crampton will not, it must be evident, admit of a general abstract adapted to the limits of our Journal: to derive from it all the benefit it is calculated to effect, it must be studied in detail. We shall, therefore, only cite a few of the most striking facts; but those, we trust, will be such as are calculated to excite reflection, and furnish useful information respecting the nature of dropsical affections in general. We shall select them from such cases as terminated fatally, and of which histories of dissection after death are given; as it is those that are best calculated to lead to correct pathological knowledge, and, when this is acquired, the appropriate medicinal measures are sufficiently obvious.

"CASE I.—Mary Callaghan, æt. 22, June 27th, 1817, was admitted with symptoms of very general anasarca: the face, the trunk of the body, the thorax, especially the legs and thighs, were unusually œdematous; the abdomen much distended, and fluctuation evident; pulse small and oppressed, respiration hurried and laborious; urine of a high colour. She suffered excessive pain in the scrobiculus cordis. Dropsical symptoms were present only six weeks.

"She had been given mercurials inwardly by her husband, in

the form of solution: this was followed by severe pains in her bowels, the catamenia became suppressed; the swellings then appeared. She attributed her illness to the mercurial medicine.

"On her admission to the hospital, venæsection, to the extent of ten ounces, was twice performed at the interval of a few days: this afforded temporary relief to the pain; the anasarcous swellings left the upper extremities, and there was a considerable diminution in the size of the abdomen. Symptoms, however, of distress in her breathing, return of pain in the scrobiculus cordis, greenish vomiting and hiccup came on; and she died in agony on the 8th of July.

"*Dissection, 9th July.*—Lower extremities anasarcous; only two quarts of fluid in the abdomen; abdominal viscera sound; lungs quite healthy, but adhering in many points; above half a pint of serous fluid, with flakes of lymph, in the pericardium; a white spot on the right ventricle, half an inch in diameter, evidently from a deposition of coagulable lymph."

"CASE 2.—Edward Anderson, æt. 19, July 4, 1817. Anasarca of the face, head, and arms, legs, thighs, and body, has come on in the order of the parts enumerated. Abdomen distended, and contains a fluid; lips and cheeks appear purple and livid; cough, and pain of the left side; pulse small and indistinct, not frequent; urine scanty and red; diarrhœa. Has been dropsical for seven months: it came on immediately after a fall from a car.

"He was partially relieved by a single venæsection, the cough and pain of his side having been removed; in other respects the treatment was ineffectual. He died on the 18th.

"*Dissection, 19th July.*—Body anasarcous; not much fluid in the cavity of the abdomen; liver enlarged, presenting a peculiar marbled appearance; some effusion of lymph about the spleen. The other abdominal viscera healthy; lungs sound, slightly adherent; the heart adhered to the pericardium in many points,—the bands of adhesion appeared not to have been of recent formation."

"CASE 9.—Laurence Mulhall, æt. 45, Oct. 10, 1817. Abdomen very large, tense, and containing a fluid; legs œdematous above ten months; cough and pain of sternum, with frequent pulse; urine red and scanty. Was injured in his chest by falling, and being bruised in a mill: to this accident, in which he was much exposed to wet and cold, he attributed his illness.

"He was directed venæsection to ten ounces on his admission; and a repetition of the same measures on the 13th, as he still complained of the severity of the pain in his chest.

"The brachial artery was punctured in the operation of bleeding, and an aneurism became formed. On the 24th, the whole arm was enormously swelled and blackish; his dropsical symptoms had nearly disappeared.

"He was removed to a surgical ward, where he died on the 20th of November.

"*Dissection, 21st November.*—Thoracic viscera were healthy. Abdomen contained about four quarts of fluid, of a pale straw co-

lour, mixed with flakes of lymph; the liver, spleen, and kidneys, were healthy; but the stomach was one schirrous mass, except a small portion of the cardiac orifice. Omentum could not be discovered, except a small portion which partook of the disease of the stomach.

"The small intestines were much thicker in their coats than natural, and covered externally with small white elevated spots.

"The puncture in the artery was closed up, and the aneurismal pulsation had ceased five days before his death."

"Case 10.—William Tuite, æt. 24, a newsman, November 10, 1817. A relapse of general dropsy, both anasarca and ascites, to a considerable extent; breathing much distressed, pulse hurried, urine scanty and red; no cough or local pain. He was cured of dropsy in September, but, returning to his intemperate habits, and being constantly exposed to cold and wet, the disease recurred.

"He died on the 19th of December, having suffered severe pain in the umbilical region, and excessive distention, for some days antecedent to his death. He would not submit to the operation of the paracentecis.

"*Dissection, 20th December.*—Abdomen was enormously distended with fluid. On opening it, a portion of the omentum was found adhering, by recent exudations, to the umbilicus. Liver diminished in size, but tuberculated throughout: the peritoneal membranes of it were coated with lymph, as well as those of the parietes of the abdomen. Stomach healthy, intestines distended with air; coats of the small intestines were thicker than natural, with effusion between their laminæ. Spleen somewhat enlarged; kidneys healthy. Thoracic viscera in a sound state."

"Case 14.—John Shawe, æt. 60, November 14th, 1817. A very intemperate man, who procured bodies for dissection, had repeated returns of ascites within the last two years: they were generally removed by purgatives, by jalap in prticular, according to his account.

"His first dropsical attack came on with cough and hoarseness. His last illness was present six months: it was preceded by a paralytic attack, during which he lost his speech; from this state he was restored by arteriotomy. His abdomen is now very large, and general anasarca prevails; breathing oppressed; pulse moderate; bowels costive, urine red. A syphilitic eruption is likewise observable all over his body.

"A single venæsection was practised with a view to relieve his breathing; purgatives and mercurials were directed. He died, however, on the 21st November, in an attack of apoplexy.

"*Dissection, 22nd November.*—Abdomen contained a considerable quantity of fluid; liver hard, tuberculated, but very much shrunk in dimensions. Peritoneal covering of the liver coated with lymph. Vessels on the arachnoid and pia mater were turgid and a slight effusion of serous fluid had taken place in the ventricles of the brain.

"The thoracic viscera were healthy."

"CASE 15.—John Murtagh, æt. 29, a butcher, April 3, 1818. Sallow and emaciated; much addicted to drinking ardent spirits; enormous œdematous swellings of the lower extremities for twelve months; ascites had supervened within the last three weeks; cough and soreness, with flying pains in his chest and abdomen; pulse frequent, small and hard; urine scanty and high-coloured: attributed his illness to cold.

"Venæsection was directed: it was not practised, as a profuse nasal hæmorrhage came on after the visit. He was slightly relieved by the paracentesis, which was performed on the 9th; but he died on the 16th of April.

"*Dissection, 17th April.*—Abdomen was full of a yellowish serous fluid. Liver tuberculated throughout; some of the mesenteric glands were enlarged and indurated. Peritoneum lining the parieties of the abdomen thickened and very vascular, about the iliac region especially; reflections of that membrane over the stomach and intestines much thickened, as well as their muscular coats, seemingly by the intermediate deposition of lymph, as well as a serous fluid."

Histories of thirty-five cases which terminated favourably then ensue, which lead to the following reflections:—

"From the result of the cases recited, it appears that a greater number of dropsies connected with disease of the thoracic viscera were relieved by medicines, and admitted of cure, than those combined with disorders in the viscera of the abdomen. This may, perhaps, appear strange when the vital importance of the viscera of the thorax is considered, and when the opinions of others on this subject are consulted. Ten of the fifteen patients examined after death had either the liver, stomach, or spleen, tuberculated: if any reliance is, therefore, to be placed in a conclusion drawn from so limited a number, ascites, with scirrhous liver, should be considered a more incurable or fatal form of disease even than hydrothorax combined with some organic disorder in the cavity of the chest, provided the organic derangement is at all compatible with the functions of circulation and respiration.

"Of the patients cured, a considerably greater portion were affected with disease in the thoracic viscera; some of them had evidently organic affections of the heart, and yet they appeared to be acted upon by remedies with infinitely more ease than those where disease had established itself in the cavity of the abdomen.

"We should, therefore, not be too confident in our expectations of recovery in ascites, even though the strength be unimpaired, the respiration and the pulse good; nor, on the other hand, should we despair, where the pulse is feeble and intermitting in hydrothorax and the breathing difficult and laborious.

"The diagnosis to ascertain the organ which has been first affected, and which is chiefly oppressed, is extremely desirable, with a view to the mode of treatment and the remedies to be selected.

"In either general or partial dropsy, the preceding cases warrant us in stating that, whenever the organs of respiration appear to labour, if the strength is not much impaired, and if the disease is recent, it will be safe to practise general bleeding: still more so, if, in addition, there are symptoms which denote inflammation of any texture in the cavity of the thorax. In some of the cases, a single venæsection appeared to arrest the progress of a recent dropsical disease; in others, a repetition of that practice seemed necessary to ensure success. In such a complication, other remedies appeared to be thrown away; diuretics would not act, and purgatives did not afford any relief, until after venæsection had been practised.

"After the removal of congestion or of inflammation, should either be present, it is less difficult to regulate the secretions; and, perhaps, there is less nicety in the selection of remedies than is commonly imagined. Blisters, after one or two bleedings, afford relief, on the same principle and in the same manner they do in the other pneumonic disorders not complicated with dropsy.

"If a chronic or a sub-acute inflammatory condition of the viscera in the thorax should maintain a dropsical disease, masked by debility, and not developing itself by its legitimate symptoms, a single bleeding will often tell the true state of the patient, by showing the quality of the blood. In incipient dropsy it is generally buffed, but not always so: at all events, a small venæsection, cautiously practised, can do no harm. The strength of the patient, the state of the pulse and respiration, with the presence or absence of local distress, appear to be better foundations to determine whether venæsection should be practised, than the characters of the urine."

After some observations tending to appreciate the value of the different medicines usually employed in dropsy, Dr. Crampton concludes with remarking that,

"So far as can be collected from the preceding histories, a selection of the diuretics to be employed appears a matter of less consequence than might have been expected: where the medical treatment was directed to prevent or remove those tendencies to organic changes in structure which have been observed to precede dropsical effusion, little then was left for the officinal diuretics to accomplish.

"The plan of treatment where early venæsection in dropsical diseases is recommended, must appear very abhorrent to those who were accustomed to consider the dropsical or serous diathesis as the result of atony or weakness. Relaxation* in the exhalant system is considered one of the general causes of dropsy, according to Dr. Cullen, and blood-letting† one of those practical measures which often gives rise to this relaxed state. Whereas, those who look to the diseased appearances in the different cavities are more disposed to conclude dropsy as associated with an excited condition of the

* Cullen, First Lines, MDCLVI. † Ib. MDCLX.

exhalants pressed by the vis á tergo of the capillaries, and oozing out their fluids more especially on the serous membranes, which are so constructed as not to allow the same distension of their vessels which other textures permit.

"The name of dropsy, and the notions of debility and relaxation, have long tied up the hands of practitioners: it is time that these delusive theories should give place to facts and experiments, and to a reasoning founded on them. It would be well, therefore, in forming our plans of treatment, to lose sight of the name of dropsy, and take measures to prevent those organic changes which we are apprehensive are going on. Nosology, in giving systematic names to diseases, has facilitated the study of medicine; but it inclines us to dwell too much on symptoms, and too little on the real pathological state.

These researches were undertaken with a view also to ascertain the correctness and degree of importance of the statement, or proposition, of Dr. Blackall, that coagulable urine accompanies those dropsies which depend on inflammatory action: the results of the experiments of Dr. Crampton on this point were by no means favourable to these notions.

XIII.—*Cases and Dissections illustrative of Disease of the Brain*; by Samuel Black, M.D. M.R.I.A.

"I am not aware (says Dr. Black) that the following recordsof diseases and dissections of the brain will communicate any thing very new or very uncommon; but I consider it as a principle admirably good in itself, and in its application promotive of the interests of science and of humanity, that every professional man should contribute his quota towards a general fund, from which we may expect to derive accurate histories of disease, and faithful reports of diseased appearances after death."

These cases are apparently described with much perspicuity and accuracy of observation, and the history of them will furnish an addition of some value to those of the various injuries and idiopathic diseases of the brain and the membranes of the cranium, of which the importance has been particularly shown by Pott, Mr. John Bell, Sir Everard Home,* and Dr. Philip Crampton.†

XIV.—*Case of Inflammation and Abscess of the Brain, attended with Disease of the Ear*; by John O'Brien, M.D. &c.

This case is given by Dr. O'Brien as a useful addition to those related by Dr. Black; the observations we made respecting those will equally apply to it.

* *Medico-Chirurgical Transactions*, vol. iii.

† *Dublin Hospital Reports*, vol. i.

XV.—*A Case of Inflammation of the Ear, attended with Symptoms of Compression of the Brain;* by RICHARD GRATTAN, M.D. Fellow and Censor of the King's and Queen's College of Physicians, &c.

This was a case somewhat analogous with the preceding: it occurred in a lady who had been "at all times extremely subject to inflammations of the face and throat, from any incautious exposure to cold." On one occasion of this kind she became affected with acute pain of the ear, which continued to increase for several days, until it was accompanied with symptoms of severe inflammation within the cranium. We cannot enter into a particular history of the symptoms which appeared, and the remedial measures that were had recourse to, but must observe, in a general way, that, under the use of blood-letting, purgatives, saline diaphoretics, calomel, and digitalis, this case terminated in a favourable manner.

Dr. Grattan takes this occasion to adduce some reflections on the nature of inflammation, and on the effects of digitalis and mercury as auxiliaries to blood-letting in the treatment of inflammatory diseases.

We gave a detail of the hypothesis of inflammation adopted by Dr. Grattan, in our last "Historical Sketch of the Progress of Medical Science," not, as we should then have remarked, on account of its novelty, but from its being a clear and lucid display of one that has had several ingenious physiologists for its supporters. This hypothesis was advanced, with nearly all the arguments in favour of it that have since been proposed, by Sig. VACCA, as early as 1765;* and some persons may, indeed, be disposed to consider it merely as a revival of that of ERASISTRATUS.

The hypothesis adopted by Dr. WILSON PHILIP, and which he has endeavoured to substantiate by experiments, is somewhat analogous with this, he says—"Inflammation seems to consist in the debility of the capillaries, followed by an increased action of the larger arteries; and is terminated by resolution, when the capillaries are so far excited, and the larger arteries so far weakened, by the preternatural action, that the power of the capillaries is again in due proportion with the *vis a tergo*."†

The limits of a review will not permit us to enter into a

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* *Liber de Inflammationis Morbosæ, quæ in humano corpore fit, naturâ, causis, effectibus, et curatione.* 8vo. Fiorenza, 1765.

† *Experimental Enquiry into the Laws of the Vital Functions.* Second edition, p. 283.

full examination of the degree of probability of this hypothesis, and of the experiments on which it was founded: indeed, we consider that the questions which Dr. Philip has himself advanced, as difficulties in the way of it, forcibly show its want of conformity with the general known laws of the animal economy, and thus constitute in themselves the most powerful of theoretical objections. "Why does a failure of power," says Dr. Philip, "of small extent in the capillaries of a vital part strongly excite not only the larger arteries of the part affected, but those of the whole system; while a more extensive debility of the capillaries of an external part excites less increased action in the larger arteries of that part, and often none at all in those of the system in general? Why does inflammation often move suddenly from one part to another, when we see no cause either increasing the action of the capillaries of the inflamed part, or weakening those of the part now affected? Why does inflammation often arise in parts only sympathetically affected, and consequently far removed from the offending cause? Why is inflammation often as apt to spread to neighbouring parts, between which and the part first affected there is no direct communication of vessels, as to parts in continuation with that part?"*

The experiments† of Dr. Philip may be rationally considered as but a weak foundation for such an hypothesis, particularly when we reflect on the circumstances under which they were executed, and the state of the system under which inflammation is most readily excited; its apparent remote causes, and arguments from analogy with what appears to be best substantiated respecting the laws of the functions of the animal economy, all militate against this hypothesis. Several of the above objections will also apply to the hypothesis adopted by Dr. Grattan; and, although this may seem more rational, it is controverted by observation and experiments, not made under such objectionable circumstances as those of Dr. Philip; and it rests on a basis that is merely imaginary, and not supported by any analogous facts. The inflamed sclerotic membrane of the eye is a fair and evident subject for observation, and for thence deducing conclusions respecting the nature of inflammation. The microscope does not here show any increased action of the arteries running to and through the inflamed part. Increased action of the arteries going to an inflamed part seems to be a mere casual, a mere accidental, concomitant. The ex-

* *Loc. cit.*

† See his *Treatise on Febrile Diseases.*

periments of Mr. Brodie and some other eminent physiologists appear, as far as experiments can prove any thing respecting the more minute actions of the organs of an animal body, to have satisfactorily controverted the notion of increased action of the arteries being an essential circumstance in inflammation. The same observations and experiments also appear to disprove the existence of obstruction to the course of the blood through the capillaries; an opinion which has been successively adopted by Asclepiades, Böerhaave, and Cullen, but which is not supported by any well-ascertained facts.

But how satisfactorily are the queries of Dr. Philip replied to, and how well are the principal phenomena of inflammation explained, by the hypothesis, we would almost say theory, of Bordeu.

"Perhaps what has been termed a congestion of blood," says Bordeu, "and which has been regarded as the cause of inflammation, is only an effect of a particular predisposition that has taken place in the part, the nerves of which have acquired a certain and somewhat violent degree of action, and which is, properly speaking, the cause of inflammation.

"If each trunk of the blood-vessels be surrounded with nerves, as we have supposed, and these nerves become irritated, they will propel the blood in greater quantity, and with much more force than ordinary, towards the ramifications of those vessels, as takes place in glands to which the fluids are carried in greater quantity, and with more force, during the action of secretion.

"If we acknowledge that every part has vessels which do not, in the ordinary state, receive all the fluid they are able to contain,—that is to say, that these vessels, more or less dilated, will receive different parts of the blood,—we might suppose that inflammation has its seat in these vessels, which are so contracted in the ordinary state that they receive only lymph, although they have sufficient capacity to become blood-vessels (admitting the expression) on certain occasions; for example, in the state of inflammation.

"These vessels, then, have the property to be both blood-vessels and lymphatics; ordinarily they contain only lymph, because they are contracted so as only to admit that fluid. Are the nerves which accompany them irritated in a certain manner? these vessels dilate themselves and alter their position: they, from being tortuous, become more or less straight, *eriguntur*; and this sort of erection, or of active dilatation, occasions the blood to enter them in greater quantity; besides which, it is also driven into them by the

influence of the nerves on the trunk of the principal vessel of the part.

"This is very different from what has been commonly advanced on this point: the tumor has been regarded as the effect of the rush of blood; and, perhaps, indeed, the tumor or congestion *(disposition bouffie)* of the part may occasion the blood to flow to it in greater quantity, and with greater force."

After some observations tending to show the probability of what he has here advanced, Bordeu thus continues:—

"Can we understand the nature of this phenomenon without considering that that which occasions the tumefaction is principally the *erethism* or the particular tension of the nerves and vessels of the part?

"This is not the place to extend this theory:* it is sufficient to remark that an inflamed part is, in a manner, a distinct body *(corps à part)*; at least, it is so for a certain time. It has a sort of action superadded to that which constitutes life; it makes a distinct circle; and what passes in this part resembles what takes place in glands and other organs to which the blood is directed, and where there are species of *torrents* that practitioners have called *raptus*.

"We might, in speaking of this *raptus*, still prove what we have advanced on the subject of the *particular action* of a part, and show how little attention has commonly been paid to this sort of phenomenon by physicians, which they do not know how to explain, any more than they do what regards certain derivations and revulsions, and evacuations of fluids by particular organs, by following what the scholastics say respecting the circulation; but all that would lead us from our principal subject."†

The *erethism* of which Bordeu here speaks is, in an inferior degree, an ordinary function of the animal economy, and is evinced in numerous physiological phenomena: as, the act of blushing; the erection of the papillæ of a woman's breast, on the touch of the lips of her infant; *virgæ erectione vi imaginationis;* the accident that happened to Horace in his way to Brundusium—

"———somnus tamen aufert
Intentum veneri: tum immundo somnia visu
Nocturnam vestem maculant."

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* Bordeu was, unfortunately for the progress of science at that period, too much inclined to advance some of his finest ideas in an adventitious manner, and then to turn suddenly from them, on all occasions, as he has done on this.

† *Œuvres de Bordeu; Recherches Anatomiques sur la Position des Glandes, et sur leur Action*, § cxxix.

Analogous phenomena are also apparent in the ducts of the secretory glands: as the sudden flow of milk from a woman's breast at the sight of her infant, from which she has been absent a little time; the common act of milking a cow or other animal; (we may here observe, that the explanation given of the mode in which an infant sucks,—that is, by forming a vacuum round the nipple, is obviously insufficient;) and it may be demonstrated by an easy experiment:—stand before a mirror after having fasted a little while; raise the tongue, and think on some favourite species of food; a jet of saliva will instantly spring from the orifices of the glands on each side of the frænum of the tongue. We should, however, turn to Bordeu for the most striking and beautiful illustrations of this phenomenon; but, then, to do it effectually, would require us to transcribe the greater part of his Recherches sur les Glandes.

Mr. John Hunter, it should be remarked, supposed that a sort of active dilatation of the capillaries took place in inflammation; but, without being suspected of want of due respect for the opinions of our great physiologist, we may say that his reasoning on this subject is extremely vague; and, as the name of Bordeu is hardly known in this country, we should observe that he flourished a short time previously to Hunter: the opinions we have here adduced were published in the year 1752.

We must now, though reluctantly, quit Bordeu; but we intreat the younger part of our readers to *study* his works: this, however, they cannot fail being induced to do ere long, for his glory is now just breaking through the clouds that have long obscured it, and the truth of several of his original and beautiful doctrines is daily illustrated by the observations and reflections of the most eminent physiologists. Bordeu was one of the few cultivators of medical science, who, like a Galileo, a Roger Bacon, and an Epicurus, in physics, sprung so far before their contemporaries that they have been lost until men of subsequent generations have arrived to where they terminated their career; and then, and then only, has their merit appeared.

We are disposed, however, before we resign this subject, to adduce a short extract from Bichat, which expresses, in another way (which may, perhaps, be more distinctly intelligible to some persons), what has just been advanced respecting inflammation.

"Is a part irritated in any way, its sensibility immediately alters—it increases. The capillary system, hitherto a stranger to blood, assumes a relation to it; *it calls the blood*, in a manner; the blood flows to it, and remains accumulated in

the part until its organic sensibility returns to the ordinary state.

"The penetration of the capillary system by the blood is, then, a secondary effect in inflammation. The principal phenomenon, that which causes all the rest, is the local irritation, which has changed the organic sensibility of the part."*

The arguments of Dr. Grattan in favour of the use of digitalis and mercury in inflammation, are deduced from the ideas and opinions he has formed respecting the nature of that affection; they are now to become the subject of our remarks: we must, however, previously observe, that the use of those remedies for the same purpose is not novel in itself; although really original with respect to Dr. Grattan, since he was led to it by his own particular theoretical views.

Dr. MOSSMAN was, we believe, the first who argued for the utility of digitalis in inflammatory affections, from its influence on the minute arteries: his reflections on this subject were published in the fourth volume of our Journal.

Dr. FARRE also, some years since, indicated the mode in which mercury relieves inflammation, on principles similar to those advanced by Dr. Grattan. Mercury had been previously employed in various inflammatory affections by numerous practitioners; but this appears to have been done from observation of the results from its use, rather than from theoretical principles. Even Dr. RUSH, who employed mercury in the early stages of phthisis with remarkable success, seems to have considered that its beneficial effects in that disease arose solely from the counter-irritation it produced in the salivary glands; since his constant object was the excitement of salivation.†

We consider that Dr. Grattan has not formed a strictly correct opinion respecting the mode in which digitalis acts on the animal economy: he states that it immediately lowers the action of the heart, and diminishes the frequency of the pulse. This is contrary to the observations of Dr. Saunders and every other physician of eminence who has carefully watched its effects; all of whom concur in asserting, that, when the action of the heart and the frequency of the pulse are below a certain point, (about 130 or 140 in a minute,) it universally increases their force and frequency before it diminishes them. When the pulsations of the arteries are above 150 or 160 in a minute, digitalis has been frequently

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* *Anatomie générale, Systèmes Capillaires,* § vi.

† See *London Medical and Physical Journal*, vol. xix. p. 47, et passim.

found to lessen them immediately; and so would wine or alcohol under the same circumstances; but it would not thence be proper to call them sedatives even on these occasions.

The state of health is that in which the influence of medicinal substances on the animal economy can be most accurately determined; and, from having this view of the subject, the writer of this critique instituted a series of experiments on himself, with several of what are commonly termed the vegetable poisons. Those with digitalis were repeated several times, under various circumstances, with different objects: this substance constantly increased the force and frequency of the action of the heart and arteries before it diminished them; the lessened degree of action appeared to ensue in consequence of the nervous sensibility becoming depressed from its previous excitement; and, by repeating the dose of the vegetable at short intervals, and constantly and progressively increasing it, preternatural force and frequency of the action of the heart and arteries were maintained during eighteen days, when the experiment was terminated, in consequence of the serious derangement of the bodily and intellectual faculties that was produced. In another experiment, in which the quantity of the vegetable taken was less, and the intervals between the doses longer, the action of the heart and arteries, after having been increased in force and frequency during two days, fell below the natural standard; but even then it was again excited for a short time after each dose, although it did not rise to the ordinary degree on these occasions.

Dr. Grattan also considers that digitalis, whilst it lessens the action of the arteries, increases that of the absorbent vessels; and this appears to be a common opinion: but we have been led to conclude that it has but little influence on the absorbents,—that is, but very little when compared with what it has on the minute ramifications of the arteries. It appears that it is from the continued use of digitalis lessening in a considerable degree the action of the latter, whilst it has but little effect on the former, thus destroying the ordinary balance between exhalation and absorption, that the opinion above stated has arisen.

Dr. Grattan, however, proposes as a question—

"May not digitalis, at the same time that it increases the action of the lymphatics, which every where accompany the capillaries, also stimulate the latter to more forcible contraction, so as to propel their contents, and relieve themselves from morbid distension? Its action on the heart is sedative, as is also its effect on the arterial branches which terminate in the capillaries; but the capillaries evidently possess a structure different from the

arteries from which they derive their origin; and hence it is not unphilosophical to suppose that they may be differently affected even by the same medicine."

And he continues to remark—

"Should this opinion be correct, the local action of digitalis on the vessels which are the immediate seat of inflammation will bear a strong analogy to the effects of topical blood-letting; while its sedative effects on the heart and arteries equally resemble those of blood-letting largely practised from the general system. At all events, be this as it may, the increased action of the lymphatics, together with the diminished action of the heart and arteries, are in themselves sufficient to explain whence it is that digitalis is a remedy of such utility in the treatment of inflammation."

We refer our readers to the work of Dr. Saunders on this subject, and to the numerous Memoirs by Drs. Mossman, M'Lean, Drake, Kinglake, Hamilton, Fowler, Penkevil, and several other eminent physicians, which were published in the early volumes of our Journal, for the means of determining this question, which is not a point of mere idle speculation; since, if it be proved that the immediate influence of digitalis on the heart and arteries is that of a stimulant, much caution and reserve are shown to be necessary in its use during the more intense forms of inflammation, and when the action of the arteries is much increased in force; whilst, if it be a direct sedative, no such reserve is necessary. The writers to whom we have referred, concur in stating that it should not be used before the violence of inflammatory action has somewhat subsided. We should, however, mention that Dr. Grattan has premised the use of "moderate venæsection."

"Independently of the power which digitalis evidently possesses of diminishing the *vis a tergo*, (says Dr. Grattan,) it has the further effect of increasing absorption, from the various textures which are supplied with blood-vessels and capillaries. Thus, in this way, it also tends to subdue inflammation; for, as absorption is promoted, the contents of the capillaries must be proportionably diminished, and their turgescence relieved.

"Mercury, like digitalis, acts powerfully on the absorbent system. Although it has a strong tendency to equalize the circulation and to remove congestion, yet it does not diminish the action of the heart or arteries. Its influence is principally exerted on the capillary system, and particularly on that of the absorbents, which it stimulates more effectually and permanently than any other medicine. That it acts immediately on the capillaries, I think, can hardly be disputed, when we consider its well-known effects in changing the nature of various secretions; causing some to become healthy that were before diseased, and altering for the

worse others that were healthy previously to its employment. From what has been already said on the subject of digitalis, and the mode in which it probably acts, it would seem that mercury is, in certain cases of disease, even more likely to be of use."

In inflammation of the mucous membrane of the lungs in weak and debilitated constitutions, accompanied with quick laborious breathing, orthopnœa, tumid countenance, and dark colour of the cheeks and lips, the use of digitalis and mercury, with auxiliary remedies,—"such as blisters, expectorants, &c. and sometimes stimulants, when the general debility and absence of acute inflammation appeared to indicate them,"—has been found so beneficial by Dr. Grattan, that "he never lost a patient under those circumstances, when the system was once fairly under the influence of mercury:" and these remarks, he states, apply to inflammation of every other organ as well as the lungs.

(To be continued.)

A Treatise on Midwifery; developing new Principles, which tend materially to lessen the Sufferings of the Patient, and shorten the Duration of Labour; by JOHN POWER, Accoucheur, &c. Member of the Royal Medical Society of Edinburgh. pp. 270.—London, T. and G. Underwood. 1819.

(Concluded from p. 336.)

"THE metastatic action may be determined to various parts of the bodily system; these may be classed under two heads:

"1. The metastatic action may actuate the muscular system.

"2. The metastatic action may produce increased actions of the arterial system.

In entering upon the consideration of metastatic action determined to muscular parts distinct from the uterine system, the author proceeds to enquire more precisely into the nature of that action of the uterus commonly denominated "labour pain." In this investigation, he satisfactorily exposes the inaccurate and contradictory notions of former writers on this subject, and deduces from the facts as they have appeared to himself,—

"1. That the uterine action is not necessarily accompanied by a spasmodic state of the uterine muscles, and consequent pain.

"2. That the most distressing pains of parturition may be totally unconnected with the action of the uterus.

"3. That such pains are inefficacious and unprofitable."

The pains of parturition depend upon two different principles.

"1. The sensations excited in the uterine system itself by the direct action of the parturient energy.

"2. The sensations excited in parts distinct from the uterine system, by the metastasis of the parturient energy from that system to different parts."

The painful sensations from uterine action are either from spasmodic action of the muscular structure of the uterus, or from pressure produced by the contractions of the womb upon the os uteri, vagina, and other parts connected with the passage for the child.

The pains arising from metastasis of the parturient energy to other muscular parts are, in general, of a very distressing nature, and are usually described as "cramping, cutting, grinding, rending." When the rectum or bladder become the seat of metastatic action, a sensation of the expulsive actions of those organs is experienced, and a sense of bearing down, which is often confounded with the regular propellent action of the uterus on its contents. Other peculiarities of these pains are observable, and their independence of true contractile effort of the uterus is demonstrable by the flaccid feel of this organ to the hand imposed upon the abdomen during the paroxysm. With these views of the author, we feel disposed very fully to coincide; and we think it would be difficult to withhold conviction from his very luminous exposition of them.

On the metastatic excitement of the arterial system, according to Mr. Power's opinions, depend several adventitious phenomena of parturition, which we are inclined to consider as not having before been placed in so intelligible a scheme of relationship. The excitement may be more or less general, or restricted to an individual part of the system, presenting appearances modified by the peculiarities of its several seats of action. The author is of opinion that, amongst other effects, the metastatic action may excite determination to the brain, occasioning

"*a.* A state of convulsion known as puerperal convulsion.

"*b.* A state of syncope or hysteria.

"*c.* It may give rise to febrile state."

These are subjects of the highest interest, and will command attention to any plausible hypothesis which promises to throw light on their hitherto obscure nature.

For the suspension of the parturient energy, Mr. Power assigns the following causes:—

"1. The nervous power may be insufficiently produced.

"2. The nervous power may have been exhausted.

"3. The irritations of the uterine orifice, which should deter-

mine the nervous power to actuate the uterine muscles, may be insufficient to excite such effect."

These causes are all separately considered, and made to appear adequate to the production of the effect assigned to them.

On the deviations from mechanical obstruction to the expulsion of the uterine contents, the author touches very slightly, giving merely the outlines of a very perspicuous arrangement of them.

The deviations from accidental circumstances are enumerated under the following heads:—A. Premature expulsion. B. Hæmorrhage. C. Retention of the placenta. D. Rupture of the uterus. E. Laceration of the perinæum, &c. F. Inversion of the uterus. G. Extra-uterine conceptions. H. Plurality of children. I. Protrusion of the umbilical cord.

The consideration of these several circumstances evinces the same clearness of conception, accuracy of judgment, and habitual attention to order, which mark every page of this masterly production. We should exceed our limits were we to indulge our inclination to follow the author minutely through every section.

In the fourth chapter Mr. Power presents us with a synoptical arrangement of the varieties of the parturient state, founded on the principles which he has in the former chapters so luminously developed. His distribution is lucid, natural, and complete.

With this synopsis the author closes the first part of his book.

The second part of Mr. Power's work comprises practical observations relative to parturition; and, relying on the correctness of the principles which he has endeavoured to establish, he infers, and justly we think, that their influence in practice must be considerably important. His work is professedly but a partial treatise on Midwifery, either as a science or as an art; and he, therefore, in his practical considerations, limits himself to those points which seem to be immediately dependant on his own peculiar principles.

The progress of a perfectly natural labour calls for little or no interference from art; and, consequently, the indications are rather to guard against aberrations, than to offer active assistance. The general view which the author here takes of this class of parturition is clear and correct, and his practical inferences highly judicious.

In the obstetric department of the profession, as well as in the other branches, the attention of the practitioner is mainly directed to deviations from a state of natural and healthy

action. The class dystocia, therefore, is that which becomes chiefly interesting in the view of the practical reader; and of this class the second part of the work under notice treats principally of the first order, under Mr. Power's arrangement, or "Unnatural Parturition, arising from derangement of the parturient energy."

The most commonly occurring genus of this order is that of "labour with painful uterine action." If simply confined to this character, it rarely calls for interference; and the author refers the accustomed treatment to the respective cases, rather to show the inutility than to enforce its adoption. At the same time, circumstances are pointed out which indicate the advantageous interference of art.

"Labour with partial uterine action" is not of frequent occurrence, and is so nearly connected with the subsequent genus in its causes, effects, and treatment, as scarcely to demand a separate notice.

In Mr. Power's view, the most frequent cases of protracted parturition, unconnected with mechanical impediment, will be found to belong to the genus.

"Labour with metastatic determination to muscular parts." In the history of the symptoms, the distinction of specific varieties, the causes, the prognosis and diagnosis, the author enters into a detail highly interesting to the practical reader, and marked by this writer's usual clearness of conception and methodical arrangement; but we should be trespassing too much on the forbearance of the general reader of our pages were we to dilate too far on a subject remote from the pursuits of a numerous body of the profession.

On the treatment of these cases we shall not go into the minute consideration which the author bestows upon it, but shall briefly present to our readers the novel feature of Mr. Power's practice, upon which he himself looks with a kind of parental attachment, and to which he attributes an efficacy that we have no reason to anticipate will not be confirmed by experience. He says—

"Although friction of the abdomen has been recommended as an adjuvant in producing a more early and proper expulsion of the placenta, the author is not aware that it has, in any instance, been used or treated of for the relief of protracted parturition: he hopes, therefore, that he may, without presumption, assert a claim to originality in proposing its introduction for such intention.

"On first entering upon the practical duties of midwifery, it became obvious to him that the effects of parturition were by no means proportionate to what were considered its efforts, and that

the pain, which was to be regarded as the measure of those efforts, bore no relation to the degree of progress; that, in many instances, a comparatively slight degree of pain would, at one time, produce a rapid advancement of the labour; whereas, at other times, and even in the same individual case, under a series of most severe and unspeakable sufferings, little or no advancement would be made. Although aware that the observation was not new, the facts impressed him strongly; and, as he could recollect no explanation of the inconsistency in the various lectures he had attended, or writings he had studied, the subject was made an object of his serious consideration. He soon became convinced that the unprofitable pains, above noticed, were truly and *ipso facto* extra-uterine; that they produced no effect on the os uteri or expulsion of the child; and that they consisted of spasmodic affections of the surrounding parts.

"The obvious inference which now presented itself was, that their removal ought to be attempted upon the principle of relieving spasm. Having been long in the habit of employing vigorous friction for the removal of affections of the latter kind, he was naturally induced to extend its use to answer this new indication: the result exceeded his most sanguine expectation,—protracted cases, and that dread of meeting with them which had been implanted in his mind by the expectation that their occurrence would constitute the most disagreeable and perplexing part of his professional labours, vanished under its use; and he has since continued its employment, with the most happy effects, in a large proportion of the cases which have come under his care."

With the admission that some cases failed to be relieved by this practice, experience has confirmed the author's first expectations that in a majority of cases the relief afforded would be decided and ample. Mr. Power proceeds to speculate with much ingenuity on the *modus agendi* of this remedial power, and to impart instruction on the cases where it is admissible, and the manner of applying it. All this will be read with interest by the obstetric practitioner; and we think that, uninstructed by experience, he will in general be disposed to coincide with the views here exposed. He concludes his observations on this subject in the following passage:—

"By a full and careful attention to the rules laid down, the author's experience leads him to assert the possibility of terminating happily, in a comparatively short period, almost every case of protracted parturition, which can fairly be referred to the present genus."

After treating briefly of the means of producing suspension of the parturient action where this may be deemed advisable, he dismisses the consideration of this genus of labour thus—

"If, after every attempt, our intentions should be frustrated, and the desired termination alarmingly protracted, instrumental aid must be called in: of this kind of assistance the forceps can only become necessary, and the system will never be found to have sustained so much injury as to render the use of these desirable before the parts are sufficiently dilated to make their application admissible.

"The above may be thought to encourage instrumental interference; but, in an active practice of twelve years, the author has not found it necessary to apply the forceps a dozen times, and these were cases truly referrable to other deviations. On the contrary, he has been successful in a number of protracted cases under his peculiar treatment, which he believes would otherwise have required such interference."

Another genus under this order, in Mr. Power's arrangement, comes next to be considered:—"Labour with metastatic determination to the arterial system." An admission, however, of the hypothesis involved in the definition of this genus cannot be made but upon strong grounds, and an extended view of correlative facts. A series of accurate observations are wanting to give sanction to its establishment; yet we confess that the phenomena associated with the assigned cause bear an apparent affinity to it, which we do not feel much inclined to call in question. We think the suggestion of the author entitled to the deliberate attention of all those who feel an interest in the development of pathological causes. The present genus, admitting the author's system, embraces morbid conditions of the parturient process, of the highest importance both to the patient and practitioner; and courts every view which promises an accession to the intelligence of its connected causes. Labour with convulsions, with syncope or hysteria, or accompanied by fever, is always too alarming not to engage warmly the feelings of every party interested. The author enters upon the investigation of these several species with diffidence, and treats them with a brevity which does not spring from their unimportance, but from a want of confidence in his own power of illustrating them. We trust that one so eminently qualified, by accuracy of observation, by correctness of inductive faculty, and by solidity of judgment, will not fail hereafter to elucidate these as well as other parts of his subject, which he has confessedly, in the present essay, left insufficiently examined.

Three other less important genera, connected with deficient parturient energy, are practically considered; and an appendix of illustrative cases closes the volume. Were the

works which issue from the medical press all written with the same legitimate view, the same candour, and the same talent, the office of a reviewer would shortly become obsolete.

Observations on the Prevalence of Fever, in various Parts of the United Kingdom; and on the eminent Utility of Houses of Recovery: exhibiting the great Advantages that would result from such an Institution for the Reception of the Sick Poor of Bristol and Clifton. By D. J. H. Dickson, M.D. F.R.S. Ed. and L.S.; Fellow of the Royal College of Physicians of Edinburgh; Physician of the Fleet; one of the Physicians to the Clifton Dispensary, &c.—8vo. pp. 34. 1819.

We take up this pamphlet for the purpose of pointing it out as deserving of the attention of our readers, rather than from an intention to enter into a regular consideration of its contents; for, although it is chiefly written for local purposes, the arguments advanced in it are applicable to every large town in the kingdom. We know it has been observed, that most of them already contain hospitals or infirmaries, which are open for the reception of fever-patients. Such a remark, it is evident, can only come from those who continue to doubt of the contagious properties of the fever that has of late been prevalent to such a serious extent; but, even in this view, it shows an imperfect consideration of the subject. The state of patients with typhous fever; the attentions and treatment they require; the necessity of surrounding quietness, &c. are circumstances which render a general infirmary improper for their reception.

Dr. Dickson has adduced in this pamphlet a view of the present state and late progress of the prevalent fever in the chief parts of the kingdom, and a condensed account of the opinions of the most eminent and experienced physicians respecting its character, and the mode in which it is propagated. The facts thus adduced lead to some forcible arguments in favour of the measure here proposed; and we hope that the laudable zeal evinced by the author, and the judicious reflections he has advanced, will excite similar sentiments in the minds of the public, and convince them that, in effecting the proposed object, they will not only act in conformity with the most urgent dictates of charity and benevolence, but also contribute in the most effectual manner to the preservation of their own welfare.

Remarks on the Causes, Prevention, and Management, of the present prevailing Epidemic, commonly called Typhous Fever; for the use and benefit of the People. By W. O. Porter, M.D. one of the Physicians to the Bristol Dispensary, &c. &c.—8vo. pp. 53. 1819.

To those who were previously unacquainted with the character of the author, we think that the title of this pamphlet might convey an incorrect idea of the nature and object of its contents. It is not written with the vain, and commonly self-interested, intention to persuade the public that they will, by its assistance, be enabled to treat and cure typhous fever; but to show them the nature of that disease, the mode in which it is propagated, the appropriate prophylactic measures, to combat existing prejudices respecting the necessity of wine, &c. in fevers attended with debility; and, finally, to give persons in general some idea of the appropriate mode of treatment, and teach them the necessity of strictly and zealously conforming to the advice of a judicious medical attendant. We have perused it with great pleasure, and think that the benefits it is calculated to diffuse are very considerable. It is an excellent work to put into the hands of the refractory attendants of fever-patients; and medical practitioners will do well in providing themselves with a few copies of it for such a purpose: it might have such an influence on their minds as the coincidence of the opinion of another physician is commonly seen to produce. The style of it is just that in which a work, having such an object, should be written: it has a little of the honey which, Montaigne says, the good physician places on the edge of the cup containing the potion that is to preserve the life of the wayward child. It is, at the same time, not without observations and reflections that merit the attention of many members of the profession, who may be instructed, as well as amused, by Dr. Porter's reflections on contagion.

FOREIGN MEDICAL AND PHYSICAL SCIENCE AND LITERATURE.

Exposition of the Doctrine of M. Broussais.

(Continued from p. 341.)

ALL men have an inclination to form *exclusive* opinions. This disposition, which we have to attribute as general and applicable to all cases, the rules deduced from facts being either too few in number or but imperfectly observed, is one of the results of the inclination of the human mind to disembarrass itself of the painful study of *exceptions*. But, if authors, led on by their ideas, often commit this fault, critics likewise do not always avoid it, and that from the same cause. It is more easy to say that such a writer can see nothing but inflammation, that he treats all diseases by debilitants, and particularly by blood-letting, than to follow him step by step, and study with him the numerous modifications that he adduces of general principles that it may be necessary to establish in individual cases. Such, however, has been the idea which the authors of some new works have wished to give of the doctrine of M. Broussais. This physician has nevertheless endeavoured to determine the cases where he believes tonics may be proper, and he has even essayed to indicate where emetics may be exhibited without danger. In typhus arising under the most debilitating influences, and produced by the action of deleterious miasmata, stimulation is often indispensable; but it ought always to be exerted on the organs the least irritated, so as to avoid the destruction of those which are the seat of congestion. "The circumstances," observes M. Broussais, "where wine and other stimulants may be given inwardly are—1°, when general debility and stupor present themselves with a tongue but slightly red, and without any sign of inflammation in either of the three great cavities; 2°, when these means, instead of rendering the tongue dry and crusted, the thirst more ardent, the skin hotter, and the phenomena from nervous derangement more severe, produce a diminution of these symptoms, softness of the pulse, and dispose to a beneficial diaphoresis; but it will be necessary to stop at the moment when the tongue, the skin, the pulse, and feelings of anxiety, give the signal of super-excitation; 3°, when the febrile period has terminated, and the patient has fallen into a state of extreme weakness, which cannot be attributed to sufferance from an inflamed viscus; that is, properly speaking, the commencement of convalescence; 4°, lastly, when no hope remains, and the congestions increase with astonishing rapidity, in spite of the employment of the most powerful revulsives. But this last case is an extremely delicate one; and I am convinced that this desperate method, to which practitioners frequently deliver themselves up

too soon, has caused more victims than it has rescued patients from death. But all this must be subordinate to the sagacity of physicians; and it is always in applying physiology to the patient of disease,—that is to say, in devoting their attention, with the neglect of any exclusive system, to an analysis of the functions, to the study of sympathies, to an evaluation of the vital powers, and to an appreciation of the effects of modifying measures,—that they can acquire this necessary sagacity."

It would be easy for us to multiply quotations, and to develop still further these important considerations respecting the treatment of those severe and rapidly destructive maladies; but we should confine ourselves to an exposition of the general ideas of M. Broussais, and we have, perhaps, already somewhat diverged from our proper course.

It is a fundamental law of pathology, that all the species of irritation of which our organs are susceptible may be continued or intermittent. Periodical phlegmasiæ and neuroses have been frequently observed, and in every part of the body. These periodical irritations of the sanguineous system, when they affect other organs than the stomach and small intestines, assume characters that have obtained the name of intermittent fevers.

If the febrile diseases of a continued type, of which we have treated, are nothing else than the results of irritation of the stomach and small intestines, can these affections, when they are intermittent, be considered as idiopathic? After all that we have said respecting the causes and the symptoms of the first, we think it must be unnecessary to produce arguments in this place to prove that the second are owing to the same organic lesions. For a long time, the approximation of the symptoms of these two orders of diseases, demonstrated by M. Pinel, had led us to consider them as having the same local origin: the changes, therefore, made in the doctrine of one series must necessarily be applied also to the other. We shall confine ourselves, on the present occasion, to some reflections on the treatment of intermittent gastro-enteritis.

"When the irritation," says M. Broussais, "is so intense as to maintain the fever in a high degree, but not sufficiently so to prevent the return of fits of shivering,—that is to say, when the fever is *remittent*,—the first object should be to calm the irritation of the gastric system by antiphlogistic measures. If the periodical febrile paroxysms continue with intervals of apyrexia, the case becomes of the following species. In this the complete intermission of general irritation indicates that that of the viscera suffers a similar interruption. I say more; the paleness of the tongue, which represents the state of the mucous membrane of the stomach, the discoloration of the skin, which corresponds equally with that of the former organ, inform us that the irritation which it had suffered in the access is changed into a state of languor and asthenia. It is then that stimulants, by provoking an artificial excitement, which is transferred to the surface, prevent the return of

the centripetal motion of the vital powers, which would have produced a new access. These, then, are cases for the exhibition of stimulants, which become real *tonics:* they should be administered from the complete cessation of the access to the probable epoch of its return. Three or four intervals will suffice for the termination of the fever, provided that the artificial irritation provoked be unceasingly maintained. The return of the colour of the tongue and of the skin, and a certain elevation of the pulse without uneasy sensations, are the assured presages of a degree of re-establishment of healthy action, that places the patient out of danger of a renewal of the paroxysm."

Such are the bases of the treatment which, according to M. Broussais, should be employed to combat intermittent fevers. In order that it should be followed by the expected success, the state of apyrexia should be complete; without which, the stimulants termed *febrifuges*, acting on organs in a state of irritation, would have no other effect than that of exasperating the evil, and rendering the irritation continued. It is necessary, also, that the viscera be free from chronic inflammation: this lesion, indeed, is a cause which solicits incessantly the vital powers, and constantly provokes febrile concentration. What is then the effect of excitants? They give increased activity to the irritation which produces the fever, and the vital powers continue to be exhausted. Stimulants are then neither *febrifuges* nor *tonics*; for these qualities, properly appertaining to medicines which destroy fever and raise the vital energy, cannot agree with substances which support the one and accelerate the fall of the other.

When the fever is prolonged, either because it has not been opposed, or because the excitants, applied to the organs actually the seat of irritation, have supported the morbid state, the continued irritation of the digestive viscera terminates by producing in the annexed organs, or in the lymphatic ganglions situated behind the mucous membrane of the intestines, congestions more or less considerable in degree, that have been termed *obstructions.* It has been a question long in dispute, whether the cinchona or the fever produced the tumors which are also observed after chronic and long-continued inflammation of the digestive canal, which we shall hereafter recur to. The question has appeared difficult to resolve, by the greater number of practitioners. From the observations we have made, it is easy to perceive that sometimes the disease, and sometimes the remedy, are the productive causes, and that in all cases they depend on chronic irritation of the viscera.

When we are consulted by a patient actually suffering an access of intermittent fever, and considerable congestion in one of the important organs of the animal economy has taken place, we should combat these accidents just as though the malady was continued: leeches, sedatives, and revulsives, should be employed, according to the nature of the symptoms. But, as the prevention of future attacks is of especial importance, we should administer cinchona immediately after the cessation of that, the alarming phenomena

of which we had opposed. But this is a part of the subject which it is unnecessary for us to pursue further.

We have hitherto only considered primitive irritations of the digestive canal, and those, too, which immediately produce febrile re-actions: it remains for us to examine in what manner the gastric system is sympathetically influenced by irritation of other organs, and by what means fevers are then produced.

"When the influence of cold," says M. Broussais, "determines a reflux to the inward parts of the body of the blood, and the vital powers, which exalt organic action in all the viscera, and especially throughout the great extent of the mucous membranes of the gastric cavities and the respiratory organs, this reflux is followed by fever, the duration of which is for twelve hours, twenty-four hours, or from seven to nine days, according to the degree of irritation that a more or less rapid concentration has left in the three principal viscera." Such is the idea of M. Broussais respecting the inflammatory fever called idiopathic, and which he terms (we do not well perceive wherefore) *simple fever;* for the excitation of the sanguineous system which characterizes it, is then, as in all other fevers, the result of sympathy from local irritation.

Inflammatory fever may, according to M. Broussais, be produced—1°, by slight excitation of the whole extent of the mucous membranes; 2°, by the presence of too stimulant blood, which irritates their internal surface, or even by the too great abundance of this fluid; 3°, by irritation, more or less violent, of other organs than those of the gastric system. What we had previously stated renders useless any further observations respecting the two former cases; the third alone has not been elucidated, and that will now occupy our attention.

The term *inflammatory*, or *angéioténique*, *fever*, says M. Broussais, designates an excitation of the sanguineous system, which may correspond with all local irritations; and if, in all the examples we possess of this affection, the irritated organ has not been discovered, it depends on the fault of observers, who, only attentive to cerebral pain, mistake the other cries of suffering of other parts. "*Whenever an organ is sufficiently irritated to elicit fever,*" he continues, "*it never produces this, but by such irritation being conjoined with that of the heart and the mucous membranes, especially those of the gastric viscera.* To which proposition the following has been opposed :—*All the tissues formed of capillary blood-vessels are capable of producing fever, and they incite it by acting on the heart, but without necessarily affecting the mucous membranes.* This diversity of opinions appears to depend on its being assumed by M. Broussais that, in all cases, irritation, not having its seat in the mucous membranes, necessarily acts on these membranes, which in turn excite the action of the heart, and fever is then produced. The constant reality of this succession of action is by no means proved. There are cases, on the contrary, where the signs of excitation of the sanguineous system precede those of the irritation of the mucous membranes.

But the most important point of the question is to ascertain, if possible, whether it is necessary that there be at the same time irritation of the heart and the mucous membranes, in order that the sympathetic irritation of the animal economy may assume that character which is termed *fever*. M. Broussais would reply in the affirmative; and that the phenomena which take place from local irritation, when the mucous membranes are not also affected, are precisely different from those constituting fever.

The succession of action, however, assigned to these cases by M. Broussais, does not appear to be universally correct. Facts demonstrate that the excitation which constitutes fever commences sometimes in the brain, sometimes in the heart, and sometimes in the mucous membrane of the stomach. If it be slight, and confined to one or other of these three viscera, we observe sympathetic delirium, accelerated action of the heart, and derangement in the digestive function, isolated from other accidents, and, according to M. Broussais, distinct from the state termed fever. But most frequently these three organs seem to be simultaneously affected; and, in other cases, the numerous connexions uniting them soon communicate the increased action from one to the other.

This is a point of pathological physiology of great importance, and would serve to explain, according to the opinions of M. Broussais, by what mechanism the more or less severe degrees of gastro-enteritis are so frequently complicated with inflammations exterior to the digestive canal. Indeed, it is easy to conceive how the habits of body of patients, the seat, the extent, the violence of the inflammation, the causes which have produced it, &c. may produce a greater or less degree of intensity in the consequent affection of the gastric system.

All the organs being united to the nervous system and to the loco-motive agents by sympathies more or less direct, it is easy to conceive how inflammation of them may suffice to produce the symptoms of *adynamia* and *ataxy*. M. Broussais readily admits that all local inflammations may *debilitate* the subjects of them, or produce the phenomena termed *nervous;* but he considers that whenever that debility or these phenomena are accompanied with burning heat of the skin, pain in the limbs, ardent thirst, and redness with dark foulness of the tongue, they are the results of violent inflammation of the stomach and small intestines.

It is, on these data, easy to perceive what course should be taken in all external affections which are productive of the febrile state. We should always avoid to apply excitants to the alimentary canal, whether they be tonics, emetics, or purgatives; and, when the sympathetic irritation shall have become so violent as to attract the attention of the medical practitioner, the same remedies should be employed for it as if it were primitive.

We have now terminated a general view of the pathological doctrine of M. Broussais, especially that part of it which relates to the most important febrile disorders; and have, we trust, clearly developed his arguments to show that there does not exist such a

state of disease as *idiopathic* fever; that all febrile phenomena are sympathetic effects of local lesions; and that those fevers termed *primitive* or *idiopathic* are owing to different degrees of irritation of the mucous membrane of the stomach and intestines. The exposition we have given will, we trust, be sufficient to excite the reflection of our readers, and to furnish them with what will enable them to discover and pursue the ideas that arise from them respecting the points of lesser importance in this system of pathology. We shall, therefore, relinquish this subject for the present, since there are so many others urgently claiming our attention; but we shall, nevertheless, resume it at a future period, with a view to the further consideration of the objections of its adversaries, and to develop some other important parts of it, especially that relative to pulmonary consumption.

We cannot, however, conclude without again observing, that, although there are few points in this doctrine which, distinctly considered, evince decisive novelty of ideas, and that much, and indeed the greatest part of it, naturally flows from what we consider to be the best of those of Stahl, Bordeu, Bichat, Brown, Darwin, Beddoes, and Jackson,—yet, there are many important original propositions in it, and the arrangement and organization of the whole evinces deeply-penetrative views, great precision of ideas, and much and judicious reflective consideration. We do not adduce the names of several later and existing authors, whose doctrines have some resemblance with those of M. Broussais, because the date of the original publication of his views will show that he cannot be indebted to them; and we must also remark, that the greater number of those who have attentively studied the *Histoire des Phlegmasies Chroniques* are inclined to believe that, notwithstanding the coincidence of opinions above alluded to, the pathological doctrine of M. Broussais is chiefly deduced from original observation and reflection.

An Essay on the Consequences of the more severe States of Puerperality; by J. E. Fodéré, M.D. Professor to the Faculty of Medicine at Strasbourg.

(*Continued from page 357.*)

" The *chronic delirium*, or *mental alienation*, to which women are so subject after parturition, has long engaged my attention; and I have been more readily disposed to dwell on this phenomenon in a particular manner, because I conceive it is dependant on that state of the system which I have also indicated as disposing them to be affected with several other serious maladies. I have spoken, in my *Treatise on Delirium* and elsewhere, of the accidents of this kind which I have met with in practice, and there is no physician who has not witnessed them.*

* M. Fodéré here remarks, that it is in hospitals especially devoted to the insane that facts of this kind, being assembled, form

The medical treatment of this affection has consisted in the use of mild purgatives continued for a long period of time, issues in the neck, purgative glysters repeated several times a-day, and tepid baths; blood-letting has been but rarely resorted to. Such, indeed, is the most rational mode of treatment in the opinion of the best practitioners: but did these measures cure the disease in those cases that have terminated favourably; or was it not rather nature, aided by time, that established the equilibrium of the vital actions, and prepared the salutary terminations? I have been induced to infer the latter, by the cases that have come under my own observation. M. Esquirol continues to remark, that the subsidence of this mental alienation is indicated by the re-establishment of the lochiæ, the appearance of milk in the breasts, copious and mucous alvine dejections, the return of menstruation, sometimes by leucorrhœa, and rarely by a recurrence of pregnancy. If the existing ideas, which I believe to be correct, respecting the nature of the lochiæ and the cause of the appearance of milk in the breasts, are true, it is with difficulty that it can be admitted that these two effects can take place long after the cessation of the cause of their existence: because, of 55 cases that terminated favourably, 51 did not occur until after the lapse of four months from delivery. Now, we know that at such a period there cannot be a doubt entertained respecting the possibility of a new appearance of lochiæ and of milk in the breasts. Besides, in the patients I have seen, the lochiæ and secretion of milk took place in the ordinary manner, and one of them even suckled her infant. It may also be observed, that we every day witness some women experience the want of lochiæ, or at least only have a trifling discharge and of short duration, and others have no milk whatever, without falling into this state of mental alienation.

I conclude, from the nature of the chronic delirium of puerperal women, from the epoch at which it manifests itself, from the absence of a primitive material cause, from the class of persons most frequently the subject of it, and from the absence of any apparent organic lesion on examination after death, that this affection should be placed amongst the neuroses.

I have now arrived at the most important part of my labour,—that, indeed, for which it was almost exclusively undertaken,—I mean *puerperal fever*. Hippocrates recognized the influence of the state of puerperality on reigning diseases: he gives, in the first and third books of his *Epidemics*, the history of several parturient women attacked with fever, the course of which was evidently

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the most striking pictures: he would, therefore, point out the observations made at the Salpetrière, by M. Esquirol, as illustrative of the most common causes and consequences of this affection; but, as those observations have been already detailed in the 238th Number of this Journal, I shall pass on to the author's reflections on the remedial measures usually adopted in those affections.—Translator.

different from the reigning malady, and of which the favourable or fatal termination could usually be judged of on the fourteenth day.* The second, fourth, fifth, sixth, and seventh books, although written by different authors, furnish also examples of it, but their history is less complete.

Notwithstanding the descriptions of the Father of Medicine, which are extremely faithful, and of which I have a striking example under my observation at the present time, too little attention has been paid to this state of puerperal women, in whom little more has usually been attended to than the retention, or too copious flow, of the lochiæ, and the different accidents dependant on the secretion of milk. Sydenham himself did not extend his views much further: he merely remarked, that the fever which sometimes follows the suppression of the lochiæ, might pass into the class of the reigning maladies; and that it should then be treated like the epidemic, considering, however, the particular state of the subjects of the disease. This opinion has been generally followed even by Boerhaave, who added nothing to it in that part of his *Aphorisms* relative to puerperal women. It could not, however, have escaped the observation of these great physicians that women in this state are sometimes attacked with fever, independant of retention of the lochiæ and of any reigning epidemic. The mortality that took place among them, in 1746, at Paris, described in the *Memoires de l'Academie des Sciences*; and the malady that made such ravages in London and several other parts of England in 1768 and several ensuing years, which thence received the name of *puerperal fever*; finally, that which we now daily observe,—proves too effectively that there then exists a peculiar pathological state, the treatment of which is difficult, the prognostic obscure, and the issue doubtful, which has not been classed in our modern nomenclatures; but of which it is important that young physicians should not be ignorant, or disdain to admit, on commencing their professional career.

This fever, when it occurs, commonly manifests itself, as Hippocrates observed, on the second or third day after delivery, which is also the period at which *milk fever* usually appears. Sometimes, however, but more rarely, it shows itself considerably later, even as distant as the forty-fifth day; and sometimes also shortly before delivery. The patient is suddenly seized with shivering and horripilation; to which succeed heat and dryness of the skin, sometimes moderate, sometimes very intense; cephalalgia; inquietude; contracted pulse, at first not much increased in frequency, sometimes very full, at others presenting a sort of vacuity, and extremely variable on the slightest adventitious causes of disturbance, in consequence of the extreme sensibility of body and mind.

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* The author here adduces several of the cases to which he alludes; but I pass them over, considering that the works of Hippocrates are, or ought to be, familiar to every student of medicine.—Translator.

This coincidence with milk fever sometimes prevents sufficient attention being paid to puerperal fever on its origin, which does not differ from it, in the greater number of cases, in the first instance, but in the sensation of weakness and vague pains in the abdominal region of which the patients complain; symptoms which are, however, not yet strictly characteristical. These pains soon become fixed, and are, for the most part, attributed to the hypogastric region, which becomes swelled, tense, and very tender to the touch. There is a great degree of lassitude, and heat and dryness of the skin, which are not followed by the vapour from the surface that is witnessed in milk fever. The essential symptoms are—weakness, inquietude, lassitude, pain within the abdomen, and a temperature of the skin constantly above the natural standard. The tumefaction and tension of the breasts, and the painful sensations, extending to the axillæ, which thence result, are not always sufficiently remarkable to admit of the inference that, from their absence, we may consider the existing fever as that properly termed puerperal; or, from their presence, that the existence of this should be denied: and, when the phenomena of milk fever, of peritonitis, and of metritis, are combined, as sometimes occurs, it is only by the greater degree of violence, the extension, and the continuity, of the symptoms, that we can really perceive, in its early stage, that there exists a malady more severe than the milk fever.

There is sometimes constipation of the bowels, in the first instance; but this is soon followed by an abundant flux of bilious, brown, very fetid, matter, with tension of the abdomen, and distressing flatulence. Nausea and vomiting are frequent symptoms; the urine, when it is not coloured by the lochiæ, will be found to be limpid and crude; and there is sometimes dysuria. It should be here remarked, that the vital powers fall so much within the first few days of the disease, that the physician experiences some consternation on witnessing the rapid change that has taken place in the physiognomy of the patient: he sees anxiety and sadness forcibly pourtrayed; the eyes are sunken and dull, or else they have a sort of brilliancy that leads to fearful presages. The patient utters deep and prolonged sighs; she is discouraged, and disposed to predict the termination of her existence; there is constant thirst; short, difficult, and oppressed, respiration; a dry cough; a globular or spherical prominence of the abdomen; the forehead (particularly about the eye-brows), the shoulders, the hips, the thighs, and the loins, are painful; there is also pain experienced, especially about the navel or epigastrium, under the false ribs, between these and the groins, and in the region of the bladder: this pain, sometimes after a remission, soon becomes more acute, and is increased on the slightest pressure. Some women, however, only experience pain, tumefaction and tension of the abdomen, and difficulty in respiration, towards the termination of the disease; others are seized with pain, swelling, and tension of one or other of the thighs, which deprive them of the power of

moving it, and a critical abscess is formed in this part, which sometimes appears to be connected with the alleviation of the malady. Some women, who have had a considerable quantity of milk, have the breasts suddenly become lax and shrunken; in others, these organs remain firm and prominent until the disease is about to terminate fatally, when they sink from the effects of the fever and diarrhœa. It is the same with respect to the lochiæ, which certainly are not suppressed in all cases of what is called puerperal fever. When the disease is less severe, and is disposed to terminate favourably, the patients experience relief from diarrhœa, increased flow of urine, and cutaneous perspiration; which are accompanied with a favourable change in the disorder at some period between the seventh and fourteenth days. When it terminates unfavourably, continual agitation and inquietude; frequent fits of fainting; delirium, without which I have, however, seen several women die; drowsiness; hiccough; spasms; convulsions; sometimes loss of voice; copious sweats; pains like that from pleurisy; great anxiety; and, if the period is continued for a long period, there are sometimes remissions which excite hope of its favourable termination, the patient being one day better than on another, but a recurrence of its former severity again places the patient in the same alarming state. Sometimes a flow of acrid and eroding serum takes place from the vagina, without being followed by any amendment; the joints of the wrists, elbows, knees, and ankles, became covered with erysipelatous inflammation, of a reddish-brown colour, and in patches of the size of a half-crown piece, according to the observations of Home and Denman, but which I have not myself ever witnessed; the pain within the abdomen continues to increase, and disappears only a little before death, and the patient voids unconsciously urine and fecal matters of an extremely offensive odour; the pulse continues to sink; the tongue and the extremities become cold; and, lastly, convulsions, or a comatose or apoplectic state, terminate life during a febrile exacerbation.

The course of this malady is frequently very rapid, terminating in death within twenty-four hours. Denman mentions having seen some cases in which the state of coldness was not followed by heat; and others in which death happened unexpectedly after an almost insensible progress of the disease, and without apparent indications of danger: a lady of Strasbourg has recently died under similar circumstances. When the symptoms proceed with less rapidity, death commonly takes place about the eleventh day; but in some instances life is prolonged till the third week, a month, forty days, or longer. We should especially fear it when the disease has manifested itself either before or shortly after delivery, and when the progress of severe symptoms is very rapid. Diarrhœa occurring immediately after the attack of the disease, and spontaneous vomiting, are sometimes critical, particularly when copious stools are followed by a subsidence of the abdomen and moisture of the skin. Abundant and universal sweats succeeding to paroxysms of

cold are a good sign; a free evacuation of the lochiæ is also a favourable indication; and we may also cherish hope when the pulse, after having been quick and small, becomes more slow, soft, and full; when the respiration remains free; when the lochiæ reappear after having been suppressed; when the urine deposits a thick, grey, white, or even brick-coloured, sediment; and when the patient, from time to time, enjoys tranquil sleep. In some desperate cases, from which the patients have nevertheless recovered, it appears that they have owed their escape to a constitution sufficiently strong to support the long duration of the flux from the bowels, and also from their having previously somewhat recovered from the effects of labour.

I shall now examine distinctly some symptoms and signs which are not precisely similar in all cases, because of the particular constitution of the patient, the part affected, the degree of intensity of the disease, and the epoch of its invasion after delivery, give rise to several varieties. I shall afterwards point out to the young physician the degree of importance that should be attached to certain symptoms and changes, in order that he may neither experience alarm himself, nor give rise to dread in others, without appropriate reason: I shall consider the pulse, the temperature of the body, the tongue, the indications of the state of the stomach, certain cutaneous eruptions, griping of the bowels, and the effects of spasm.

The pulse, in certain cases, is merely frequent and contracted, sometimes full and almost natural, or hard and strong, like what is observed in inflammatory affections in persons of a robust habit; but, in other cases, and these are the most common, there is almost always, from the beginning, an extraordinary quickness of the pulse; sometimes, too, it is quick and much more feeble than might be expected from the concomitant circumstances. But, whatever it may be at the commencement, it always becomes very frequent on the approach of a fatal termination of the disease; and Denman correctly observed, that we rarely witness a more unfavourable sign in this fever than that furnished by great acceleration and weakness of the pulse, although the other symptoms may appear less prominent.

The heat of the skin is ordinarily attended with an arid state of it; sometimes there are copious, but partial, sweats; in some cases, the heat always remains the same in degree; in others, there is one or more attacks of shivering during the day, or these occur every other day. An icy coldness sometimes precedes death for about twenty-four hours: it is a sign of the existence of gangrene.

The tongue is ordinarily dry; sometimes it is of a greenish-yellow colour about its base; it differs, however, in appearance according to the progress of the disease, and even sometimes, although the case be severe, it is but little altered; it occasionally continues moist, and becomes covered with a thick white coating.

The taste is also generally altered, and many patients present signs of an inflammatory state of the stomach. In all cases, unless

these signs have preceded delivery, we should not be easily led to consider the disease merely as bilious or mucous gastric fever. Indeed, we see women after parturition, in other respects very healthy, suddenly display the appearances of this fever, without having previously shown any sign of derangement of the alimentary canal; and we know that nausea and bilious vomiting are often merely effects of inflammation of some one of the organs seated in the lower part of the abdominal cavity. But, according to the reflections I have already adduced respecting the derangements of the digestive system induced by pregnancy, it will be evident that these signs will sometimes indicate an original, and not a merely symptomatic, disease; and they will also show that they should always engage our assiduous attention.

We sometimes observe petechial eruptions in the first stage of this disease; but this is not an essential occurrence, and it depends either on its complication with some other disease, or on certain states of the air or unhealthy situations. The most frequent species of eruption is the miliary, which is also commonly observed in mucous fevers, and consequently does not particularly relate to puerperal women. This symptom, which is rarely met with in the south of France, very frequently shows itself in the moist valleys of Piedmont, of Alsace, of Franche-Comté, and along the lower Rhine; as well as in a long-continued, either hot or cold, moist constitution of the atmosphere: it has very improperly been attributed to the method of treatment. I have met with it in ordinary mucous fevers, without finding any particular consequences ensue from it; but an ancient prejudice causes the disappearance of it to be regarded as fraught with danger to puerperal women, and I believe that this opinion ought to be respected. In the year 1790, when I practised in the valley of Aoste, I was called to visit, in the town of Verres, a young woman in childbed, residing on the side of a causeway, who was covered with a miliary eruption. All her attendants were in a state of great alarm: I, on the contrary, a partizan of the adversaries of Professor Allioni, who had published a book on this subject, to say the truth, a little biassed,—I endeavoured to assure them of her safety, since her other symptoms were not alarming. Two days afterwards, passing that way, on making enquiries respecting my patient, I found she was buried.

The griping pains which women recently delivered suffer, nearly resemble those which accompany puerperal fever: they are sometimes even more insupportable than those of labour; but they may be distinguished by the regular course of the other attendant circumstances, and by the intervals of a total absence of pain in the first case; whilst this exists constantly in the latter, notwithstanding the remissions of the fever. We should be also attentive to the returns of shivering, of pain and uneasiness; and it is on the recurrence of these only that we should begin to experience alarm.

The absence of the lochiæ, and the signs of abdominal inflammation, often depend, in weak and delicate women, merely on a

state of spasm and erethism of the vessels of the uterus, and only require the exhibition of opiates and antispasmodics. They may also be produced by the presence of irritating matters, by clots of blood, or by portions of the placenta remaining in the uterus. Moderate evacuants and mucilaginous injections soon dissipate these symptoms, whilst they would certainly be exasperated by the treatment appropriate for puerperal fever, should they be mistaken for it. We should always pay due regard, when the labour has been of rather long continuance, or the woman is of a particularly nervous habit, to the violent agitation of the whole vascular and nervous systems, which produces such a degree of celerity of the pulse, a general excitation, constant thirst, and great inquietude, that a person not familiar with this state would be inclined to believe in the existence of an ardent fever: but calmness soon ensues after a little repose in bed, the flow of the lochiæ, fomentations, oily and antispasmodic potions, and emollient glysters. It is only when this state obstinately continues after the first or second day that the experienced practitioner presages something out of the ordinary way.

Dissections of the bodies of the victims of puerperal fever, which have of late years been made to a great extent, have most frequently shown the traces of inflammation of the peritoneum and its diverse productions: sometimes inflammation of the uterus, the fallopian tubes, the ovaries, and the intestines. Collections of thick, yellowish-coloured, serum and purulent matter have also been most frequently observed, with coagulated lymph, resembling curds, floating in the abdominal cavity, and in part agglutinated to the intestines, to the peritoneum, the epiploon, or the uterus; frequently also there have been found in the same subjects similar effusions of serum into the cavity of the pericardium and thorax, and collections of lymph on the pleura, the lungs, and the pericardium.

The above appearances, as I have stated, have been most frequently witnessed; but these signs of inflammation of the membranes about the uterus have not always occurred. When death has arrived with great rapidity, nothing has been observed, except a considerable quantity of serum within the pericardium, or in the cavity of the thorax.

Admitting, however, since such is frequently the case, that inflammation of the peritoneum accompanies puerperal fever, it will still be necessary to ascertain if this inflammation be primitive or secondary. There can be no doubt but that the former species of inflammation may take place, as a consequence of the causes that produce peritonitis in persons in general; and Dr. J. P. Franck even asserts that this is sometimes epidemic: it is then especially so amongst puerperal women, from their particular disposition to it; but there is this difference when these are the subjects of it, that although it is neither of a very serious character, nor difficult of treatment, in persons in general, in lying-in women, it sometimes displays the most prompt and alarming symptoms, and carries

them off during the first or second day, and before any decisive mode of treatment can be put in practice: whence it is evident that other circumstances unite in puerperal women to give to this inflammation a character and a degree of distinctiveness different from the ordinary forms of that affection. Does not the most simple exercise of reason inform us, that the inflammation accompanying the malady which is the express subject of my Memoir has nothing in common either with the causes of this state of disease, or the ideas to which it gives origin?

To be convinced of the difference that exists between primitive peritoneal inflammation and the true puerperal fever, we have only to pay due attention,—1°, to what happens when that inflammation exists independantly of puerperal fever; 2°, to the phenomena of metritis, certainly an acute form of inflammation, but which I have seen go through its course without the symptoms of puerperal fever, and which is also a much less severe disease, and more easily alleviated, than the latter.

The true peritonitis is similar in its terminations to other inflammations under ordinary circumstances, and may, like those, be either acute or chronic. I have seen many women in whom this inflammation, accompanied with acute or dull pains and dysuria, has been very manifest at the termination of labour, in whom suppuration has ensued from the inflammation, and who have nevertheless recovered; a success which I certainly, however, would not venture to boast of.

It has been long known, and been said to relate to real puerperal fever, that the matter from suppuration of the peritoneum sometimes collects about the navel, and is evacuated by an opening in that part; a circumstance that should be favoured by all appropriate means, and particularly by a proper situation of the body. The *Mémoires de l'Academie des Sciences*, for the year 1728, furnish examples of it related by Chomel, and similar occurrences are also described by Levret. It will, nevertheless, be more prudent not to wait for these natural efforts under those circumstances, but to procure an artificial evacuation by means of the cautery, in the situation where the greatest tumefaction and fluctuation are observed, taking care at the same time to sustain the strength of the patient by cinchona and analeptics; a method which I cannot but approve of, when employed after the violence of the inflammation has subsided. Now, who can isolate these cases from the idea of peritonitis, and say that this inflammation and puerperal fever are one and the same disease?

Metritis, as we have already stated, although it may apparently evince some analogy with puerperal peritonitis, in reality differs from it in many important circumstances. The inflammation of the uterus more decidedly evinces itself; it is induced by more manifest causes,—as violence of some kind, a wound, contusions, compression, extraneous substances, too great distention, forced contractions, violent and long-continued efforts, &c. The fever which accompanies it is more characteristic of inflammation, and

analogous with that attendant on inflammation of other viscera: this fever is, indeed, announced by more intense cold, with considerable shivering and inquietude, to which succeed burning heat; full, hard, and frequent pulse, which becomes in the end small and weak; fixed pains, like common after-pains, appearing to descend from the loins, subsiding after a little time, but shortly returning with more intensity. The vomiting, and many other general symptoms, are common to metritis and peritonitis; but the tumefaction of the abdomen is very different, and, notwithstanding the consent between the peritoneal envelopments of the uterus with the rest of that membrane, it is rare that the swelling becomes extended, except in fatal cases. The tumefaction does not manifest itself so soon as in puerperal peritonitis: it is more circumscribed; it answers to the figure of the uterus; it may be felt above the pubis, about the middle of the abdomen, where the patient experiences a sensation of great heat; the pain often extends to the neck of the uterus, to the orifice of this organ, and to the vagina, which never happens in puerperal peritonitis. The milk and lochiæ disappear also more constantly in metritis. Now, since so severe an inflammation of the uterus differs so much from puerperal fever, it is evident that it is not its inflammatory character that forms the essential circumstance of the latter affection."

(To be continued.)

Case of Rupture of the Heart, without having been preceded by Lesion of its Structure; by Dr. Fischer, of Hildburghausen. [From the *Journal der Praktischen Heilkunde.*]

Although there are several cases on record of rupture of the heart, in which it has been supposed that previous alteration of its structure had not existed, yet the case here related by Dr. Fischer must be contemplated with considerable interest, as there are some remarkable circumstances attendant on it, and such as appear to point out the mode in which that pathological phenomenon took place in this, and, perhaps, the generality of analogous cases. We shall give an abstract of the history of the case given by Dr. Fischer, which is very long, and is, indeed, extended by many minute observations which we consider may be omitted without detracting from the utility of the narration.

The patient was a man 68 years of age, who, after having long resided at court, was obliged to quit it and live in the country. He soon after this was affected with indigestion, and various nervous disorders, and he became a prey to the most sad moral affections; but he concealed with so much art what passed in his own mind, that, with the exception of his family and the physician he consulted, every one supposed him to be resigned to his fortune, or to be insensible to his disgrace. The slight paroxysms of gout, to which he had previously been subject, now occurred less frequently, and appeared at most only on remarkable changes of

season. His mode of life did not tend in other respects to injure his health.

On the 16th of October he was seized, whilst walking, with a violent pain, which he considered to be spasm of the stomach, and he with extreme difficulty reached the house of a friend, at the distance of half a league. He there threw himself into an arm-chair, and could hardly get breath. Some of Hoffmann's anodyne was given to him; soon after which he recovered, and remained in the society of his friends, without making any complaint, until his daughter arrived with his carriage to take him home. He passed a good night after this, and hardly felt himself indisposed. The following day he went to the same place which he had visited on the preceding evening; and, on returning thence on foot, accompanied by a servant, he, after having walked about one-third of the distance, was attacked with the same paroxysm of pain: he was above an hour in walking the remainder of the way; but, on getting home, he soon recovered, supped, went to bed, and slept very well. The following day (October 18) he wrote to Dr. Fischer, to inform him of the above circumstances, and to request him to prescribe somewhat that would relieve him from the wind in his stomach, which he considered to be the cause of his disorder. Dr. Fischer, however, thought differently of the nature of his complaint, and advised him to take a mixture composed of Hoffman's anodyne, volatile liquor of hartshorn, extract of carduus benedictus, and infusion of valerian; which he took. The patient felt quite well during the ensuing evening and following morning; but on that day (October 19), on sitting down to write after coming from church, he was seized with a general shivering and spasmodic contractions of the extremities, accompanied with dreadful and almost intolerable pain in the stomach. Dr. Fischer saw him an hour and a half after the commencement of this attack: a little pain about the pit of the stomach only remained at that time; the region of the abdomen between the pit of the stomach and the navel was still very sensible to the slightest touch, but it was neither tense, hard, nor tumefied; the temperature of this part, as well as that of the face, was natural,—the countenance was, indeed, a little redder than ordinary; but the extremities were cold, and the skin of them dry and somewhat rough. The pulse was nearly natural, only now and then there were two or three irregular intermissions. The patient had taken some soup since the attack, and felt disposed to take more food. Dr. Fischer considered that it was a gouty crisis, and ordered the patient to keep in bed. He prescribed some diaphoretic medicines and antispasmodic glysters. In the afternoon he was apparently better; only suffering inconvenience from eructation of wind from the stomach, with which he had from the commencement of the disease been troubled. Nothing particular occurred after this until the 20th of June, when he experienced another paroxysm early in the morning. Dr. Fischer arrived at ten o'clock, and found him on the decline. A new symptom appeared in this attack,—a sensa-

tion of distension of the whole left arm, extending to the extremities of the fingers. At half-past eleven he was tolerably calm; when Dr. Fischer left him. At two o'clock Dr. F. received a message, informing him that the patient had vomited much bilious and mucous matter, which was followed by considerable relief. Another messenger immediately arrived to request his attendance with all possible expedition. On this occasion Dr. Fischer witnessed the paroxysm nearly from its commencement to its termination; and he states that he had never seen any thing so horrible. Two strong men were leading, or rather dragging, the patient about his room; there was extreme agitation of his whole body; despair was depicted on his countenance; his cries were a sort of scream; and he fervently invoked the arrival of death. By urgent entreaties he was persuaded to lie down: some salt of hartshorn and opium were given to him, with some strong infusion of chamomile; and a cataplasm of henbane and belladonna was applied to the region of the stomach. The skin soon afterwards became moist, the pain diminished, and the patient experienced shooting sensations sometimes in the great toes, sometimes in the right and in the left shoulders; and the pain of the stomach now and then momentarily disappeared. Assafœtida, alternately with the salt of hartshorn and opium, were administered; and eructations of wind from the stomach took place occasionally with sensible alleviation. The patient after this no longer complained of his stomach, but said the pain, although less violent, seemed to be spread throughout the whole of the body. In proportion as the extremities regained their natural heat, the pulse, from having been small, contracted, and intermittent, became more free; and, when a sweat broke out, it was found to be nearly regular and natural. This sweat was very copious, and the patient again experienced some degree of pain in the stomach: he was, however, calm; and Dr. Fischer left him with the hope that he should witness more decided amendment; but the following day he received information of the death of the patient. The following account was given to him:—About an hour after the departure of Dr. Fischer, the pain increased, and the sweating continued to an equal degree. The patient suddenly raised himself on his seat, looked wildly round, seized his nurse violently by the neck as if he would have strangled her: "Support my head with your arm," he cried. He remained in this position for more than half an hour; after which he laid down on his left side, then on his right, and expired without a struggle.

Examination of the dead Body.—Externally, the body was observed to be of a bright vermilion colour over the whole of the posterior part, even down to the heels. The situation of the stomach and colon deviated from the ordinary state; the cardiac orifice was in the usual position, but the stomach thence extended upwards to the left under the arch of the diaphragm, so as to be situated very high and wholly on the left side. The ascending portion of the colon rose, from the extremity of the cœcum,

forming an obtuse angle, as far as the arch formed by the stomach, the direction of which it followed in close attachment to it: it afterwards descended, forming an acute angle. The thoracic viscera were in the ordinary situation. The pericardium was covered with a layer of fat: on separating this, it was found to be much distended, and appeared to contain a substance of a deep-blue colour. On making an opening into it, three pounds of bright-red blood escaped; and, on entirely laying open the pericardium, the heart was found to be surrounded with a large quantity of clotted blood. A rupture of the left ventricle was then discovered: this extended from the point towards the auricle, was an inch and a half in length, and two-thirds longer on the external than on the internal surface of the substance of the heart; the edges of the opening were fringed. This organ, in other respects, did not show any sign of disease; there was nothing apparent that indicated any other alteration of its structure.

After referring to numerous analogous cases, related by German, French, Italian, and English, physicians, Dr. Fischer enters at some length into the consideration of the nature of the phenomena witnessed in that here related. But, as all that is adduced on this point is solely conjecture, we had, perhaps, better leave our readers to form their own opinions respecting them. We may, however, briefly state that Dr. Fischer considers that the rupture of the heart took place gradually, and that it commenced when the patient had the first paroxysm of pain. He attributes the supposed spasms of the stomach to the violent distension of the muscular fibres of the heart; and he explains the recurrence of the paroxysms to the occasional causes to which the patient was exposed on these occasions: as walking against the wind; the shaking of a rough carriage on a stony road; and, lastly, the efforts he made to sing in a loud tone of voice in church. The rupture he supposes, from its being more extensive externally than internally, to have commenced from without, and extended inwards during each paroxysm; until, on the most internal fibres giving way (probably when he started up in bed and grasped the nurse), effusion of blood into the pericardium, and death, ensued.

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

A CASE of *Tetanus* is related in the last Number of the Edinburgh Medical and Surgical Journal, by Dr. DOUGLAS, induced, apparently, from the influence of cold after the patient had been much heated and fatigued by husbandry labour; which terminated favourably under the use of a very large dose of opium (taken from mistake), followed by active purgatives. Bleeding had been once employed; sudorifics, opium, and purgatives,

in moderate doses, given; a blister applied to the sternum, the most painful part; and afterwards, with the same measures, æther, tincture of castor, calomel, and the warm bath, without benefit; when, on the fifth day of the disease, the patient took at intervals, in one night, a mixture, intended for an embrocation, composed of two ounces and a half of tincture of opium, two drachms of sulphuric æther, and two drachms of camphorated spirits; the next morning the spasms were perfectly relieved. Active purgatives were then administered: the report of the following day is—"He had three stools during the night, (he also had three during the preceding day,) *dark-coloured and fætid;* he did not sleep much, but was free from spasms. The sardiasis is still particularly striking when he swallows, which he says gives him pain." Friction with laudanum, &c. over the sternum, which was still very painful, and the use of a solution of sulphate of magnesia internally, were continued; and, in about a week afterwards, he was getting tolerably well.

The same Journal contains the history of a case of *Hydrophobia,* by Dr. James Johnson, of Dundee. The patient, a girl nine years of age, was bitten on the cheek by a rabid dog: the wounds were but slight, little more than through the cuticle; the parts were not excised until seventy hours after the accident, when Dr. Johnson first saw the patient. About the third week after the injury she was observed to have disturbed sleep; and in five weeks the characteristic symptom appeared. The case terminated fatally. Mercurial friction was the only measure that was employed. Examination of the body after death was not effected. We shall detail a few of the symptoms, which we consider particularly interesting:—Much pain was felt at the pit of the stomach. The heart palpitated; a cold hand applied to the region of the heart induced a deep sigh, and increased the pain at the stomach. No pain was felt at the throat. The intellectual faculties were not disturbed. "The application of a glyster-pipe to the extremity of the rectum brought on most severe spasms, and the outlet of the bowels was so constricted that it seemed as impracticable to introduce the pipe into the rectum as it would have been to push it through the parietes of the abdomen."

A short time before death she drank wine and water "greedily, and without feeling any uneasiness: she rejoiced, with her mother, at being able to drink, and had herself carried to a neighbouring house, to show that she was much better. An hour afterwards, she began to talk incessantly, and attempted to sing; by which she appeared to exhaust herself. She again became very low, and sunk. The spasms were frequent and severe; they seemed to degenerate into a constant sprawling, unmeaning, motion of the arms and legs, which was terminated by two unsuccessful efforts to vomit; with which she ceased to struggle, and instantly expired, without any noise or motion indicative of pain."

The pulse, during the disease, arose to 140, and was feeble.

The skin was not hot; but a linen sheet was, for the most part, her only covering, (in the month of January.) "Respiration was performed easily, except during the fits."

Cow-Pock in Persia.—The following account of the cow-pock in Persia is from a letter written by W. Bruce, esq. resident at Bushire, to W. Erskine, esq. of Bombay, March 1813.

"When I was in Bombay, I mentioned to you that the cow-pock was well known in Persia, by the Eliaats, or wandering tribes. Since my return here, I have made very particular enquiries on the subject, amongst several different tribes who visit this place in the winter, to sell the produce of their flocks; such as carpets, rugs, butter, cheese, &c. Their flocks during this time are spread over the low country to graze. Every Eliaat that I have spoken to on this head, of at least six or seven different tribes, has uniformly told me that the people who are employed to milk the cattle caught a disease, which after once having had they were perfectly safe from the small-pox; that this disease was prevalent among the cows, and shewed itself particularly on the teats; but that it was more prevalent among, and more frequently caught from, the sheep. Now this is a circumstance that has never, I believe, before been known, and of the truth of it I have not the smallest doubt, as the persons of whom I enquired could have no interest in telling me a falsehood; and it is not likely that every one whom I spoke to should agree in deceiving, for I have asked at least near forty or fifty persons. To be more sure on the subject, I made most particular enquiries of a very respectable farmer who lives about fourteen miles from this, by name Malalla, and who is under some obligations to me: this man confirmed every thing that the Eliaats had told me, and further said, that the disease was very common all over the country, and that his own sheep often had it. There may be one reason for the Eliaats saying that they caught the infection oftener from the sheep than the cow; which is, that most of the butter, ghee, cheese, &c. is made from sheep's milk, and that the black cattle yield very little, being more used for draught than any thing else. —*Philosophical Magazine.*

A society has been established in London, bearing the designation of the "*Hunterian Society.*" It professes the most friendly feeling towards all similar existing institutions, and is founded principally, but not exclusively, for the accommodation and benefit of medical men residing in the eastern parts of the metropolis. Its objects are to concentrate the zeal and experience of a large number of respectable practitioners, whose places of residence are at a distance from professional associations already existing, and to receive and discuss communications on medical, chirurgical, and all other subjects connected with medicine. It aims particularly at the cultivation of a spirit of liberal and friendly intercourse

among the members of the profession within the sphere of its influence.

It consists of honorary, corresponding, and ordinary, members; and already the Society is honoured by the names of a considerable number of men of character and talent. The following is a list of the officers and council for the present year:—

President—Sir William Blizard, F.R.S.

Vice-Presidents—James Hamilton, M.D. John Meyer, M.D. George Vaux, Esq. Lewis Leese, Esq.

Treasurer—Benjamin Robinson, M.D.

Secretaries—John T. Conquest, M.D. F.L.S. Thos. J. Armiger, Esq.

Council—Thomas Addison, M.D. Thomas Bell, Esq. F.L.S. Henry James Cholmley, M.D. Thomas Calloway, Esq. William Cooke, Esq. George Edwards, Esq. James Alexander Gordon, M.D. William Kingdon, Esq. Benjamin Pierce, M.D. James Parkinson, Esq. Henry Richard Salmon, Esq. Frederick Tyrell, Esq.

The Hunterian Society holds its meetings every alternate Wednesday evening throughout the year, at No. 10, St. Mary Axe; where communications on any department of medical science, addressed to the secretaries, will be thankfully received.

Observations on Phosphorescence in Terrestrial Animals.—This should be distinguished from the electricity sometimes spontaneously developed in individuals who have used much exercise, from whose dry hair sparks of light will be evolved after friction. This phenomenon, as it relates to cats, especially in winter, is almost universally known. Many analogous observations respecting it was made by the ancients; for to this should be referred that gleam of the hair of Achilles when in violent anger, described by Homer; and that lambent flame which, as Virgil says, seemed to encircle the head of Ascagnius:—"*Lambere flamma comas et circùm tempora pasci.*" Grooms talk of the sprites that sometimes appear on the manes of horses, especially when they are curried. Some authors state that they have remarked signs of electricity also on the plumage of some parroquets, &c.

We should, perhaps, attribute to this development of electricity the instances of spontaneous combustion of several fat individuals, habituated to the use of spirituous liquors; such as women exhaling hydrogenated and inflammable gases, &c.

There is another mode of lucidity, which appears to depend more immediately on nervous action: it is that evinced in the eyes of cats, wolves, owls, and other nocturnal animals. Their pupil dilates considerably in obscurity, and the retina, the appearance of which is shining, sends forth manifest light. We have had occasion to observe this effect in a fox mortally wounded, who, on his being seized in the obscure retreat to which he had fled, opened his pupils to an extraordinary extent, and developed flaming eyes. It appears that the same effect is produced in those glances during

anger which are commonly termed fiery: it is thus with the eyes of a cat plunged into water; the terror dilates the pupil, and the retina gives forth luminous rays like a mirror opposed to the sun. We shall not adduce the observations of some ancient philosophers, —such as Plato, Epicurus, &c.—who supposed that light was darted by the eye, and acted on other individuals, in love, envy, anger; and that persons might thus be fascinated, as the look of the dog arrests the partridge.

"*Nescio quis teneros oculus mihi fascinat agnos.*"

Amongst reptiles, it is pretended that crocodiles and nocturnal lizards dart sparkling glances during the night. Perhaps we might attribute to the same origin the fear caused by serpents, whence the ancients imagined the basilisk killed by his look alone; and it has been pretended that the sudden sight of a wolf caused a loss of voice.

The true animal *phosphorescence* is particularly observed in the class of insects, especially in the coleopteres. In this order are distinguished the genera *elater*, *lampyris*, and *paussus*. The *elater noctilucus*, the *cucujo* of the Americans, or the *fire-fly*, has the faculty, according to Patrick Browne (*Hist. of Jamaica*), to suspend, or to develop, light at will, just as it can be done with a dark lantern. The phosphorescent organs are situated in the corselet on each side, and are retracted during fear. The corselet contains a good deal of luminous matter of a yellowish colour, which is semi-transparent and gelatinous. This insect, which hides itself during the day, flies about during the night, and throws itself into the flame of burning lamps, &c. Its light is so vivid, that a person can read with the aid of eight or ten of these flies as well as with a candle, or travel abroad at night by the glow they diffuse. The Indians take them about in journeys instead of lanterns; and the women ornament their heads with them, as with brilliant stars.

Two other varieties of the phosphorescent elater are known in South America and the Antilles: the *elater phosphoreus* of Geer, and the *elater ignitus* of Fabricius, (*Journal de Pharmacie*, Jan. 1819.)

(To be continued.)

We have received a letter, signed "Tyrones," from some young students in medicine, who are now in the latter term of their pupillage to different practitioners in a town in Devonshire, who appear to feel a zeal for the acquisition of professional knowledge which hardly ever fails to lead to what is alone sufficient to compensate for a life devoted to arduous, though gratifying, labours. "They have formed a society, of which a meeting is held twice a week, from six to eight each evening; at each of which a lecture (composed of selections from the best writers on materia medica, pharmacy, rudiments of anatomy and physiology, practice of physic, &c. to which subjects they for the present confine themselves,) is read, and suitable demonstrations given by the member

whose turn it may be; which being finished, the members criticise on the several errors committed by the lecturer, and discuss, as far as capacity will allow, on the subject and substance of the lecture. This done, each member is required to put forward at least twelve questions on some of the before-mentioned subjects; each of which questions, if not answered by one or more of his fellow-members, is solved by himself. These proceedings occupy, at least, the allotted two hours."

Their intention, in transmitting this letter, and ours in inserting it in our Journal, is to request the advice of any of our readers respecting means which they consider adapted to the improvement of the mode of conduct they have adopted. We hope the adducing so laudable an example will incite other of our young readers in the same situation, and who may have similar opportunities, to adopt the same measures. Whenever there are twelve pupils, who have passed the middle of the term of their apprenticeship, in any town in England, such a society should be formed: let them remember that—"Nihil autem est amabilius quam morum similitudo bonorum; in quibus enim eadem studia sunt, eademque voluntates; in his fit, ut aeque quisque alter delectetur, ac seipso."

MONTHLY CATALOGUE OF MEDICAL BOOKS.

An Arrangement of British Plants, according to the latest Improvements of the Linnæan System; with an easy Introduction to the Study of Botany. Corrected and considerably enlarged, by Wm. Withering, Esq. F.L.S. 4 vols. 2l. 8s.

John Gottlieb Walter's Plates of the Thoracic and Abdominal Nerves, reduced from the original, as published by order of the Royal Academy of Sciences at Berlin. 4to. 15s.

Lectures on Physiology, Zoology, and the Natural History of Man. By Wm. Laurence, F.R.S. Professor of Anatomy and Surgery to the College, &c. 8vo. 1l. 1s.

Laurentii Io. Rubi Epistolarum Edinburgensium, Libri III. Written during three years' attendance on the Medical Institution of that City. 12mo. 5s.

Medical Topography of Upper Canada. By John Douglas, assistant-Surgeon, 8th Regiment. 8vo. boards, 4s. 6d.

Observations on the History and Treatment of the late Epidemic Disorder which prevailed in the North of Ireland. By F. Rogan, M.D. 6s.

A Manual of Chemistry. By W. T. Brande. 8vo. 25s.

Cases, with Observations on Wry-Neck; on the Reduction of Luxation of the Shoulder-Joint; on the Operation for Hare-Lip; on Cartilaginous Substances in the Knee-Joint; on Aneurism, &c. By John Kirby, A.B. Member and one of the Censors of the Royal College of Surgeons in Ireland, &c. 6s.

A Narrative of a Voyage to New South Wales, in the year 1816, in the ship Mariner, describing the Nature of the Accommodations, Stores, Diet, &c.; together with an Account of the Medical Treatment, &c. By John Haslam, jun. Surgeon, Royal Navy. 8vo. 1s.

A Letter to the Rev. Thomas Rennell, concerning his Remarks on Scepticism; from a Graduate in Medicine, of the University of Oxford. 8vo. 2s. 6d.

Medical Botany; or, the History of the Plants in the Materia Medica, No. IV. Royal 8vo. 3s. 6d.

REPORT OF DISEASES.

THE numerous variations which have taken place in the state of the atmosphere during the last month, have given rise to nearly equally various characters in the form of the most prevalent diseases; but, as is usual at this season, the far greater proportion of them has been essentially of an inflammatory character: we say *essentially*, because, as there are no, or at least but very few, diseases that are not accompanied in some stage or other with increased sensibility, either organic or animal (using these terms according to the doctrine of BICHAT), so are there hardly any disorders that are not at some period attended with more or less of inflammatory action.

Typhous fever, whether apparently arising from contagion or other causes, has evinced during life more evident signs of inflammation of the mucous membranes of the gastric organs than it did during some months previously. The extraordinary effects which we have witnessed from the application of leeches to the upper region of the abdomen, has led us to consider this as preferable to venesection in the greater number of cases, even in the first stage of the disease: the counter-irritation caused by the bites of the leeches may, probably, contribute to the good effects they produce. That there exists great and particular sympathy,—or synenergy, as Professor GRIMAUD, of Montpellier, used to term it, with more propriety, in his lectures,—between the intestines and abdomen, is shown by numerous physiological and pathological phenomena. The use of leeches cannot, however, become general for this purpose in England, as it is necessary that from twenty to forty should be applied at once: perhaps, cupping would be nearly equally beneficial.

Various forms of thoracic inflammation continue to be prevalent. Hæmorrhages, from various parts, are of frequent occurrence: these, as well as some other analogous affections, would perhaps be avoided by the old custom of taking a course of purgative medicine at this season. We do not believe that they act as alterants, according to popular notions, but they cause a constant determination to a part which attracts, (to use a metaphorical expression,) and carries off, without permanent injury to the system, the undue excitement to which persons of a plethoric habit are so very liable at this period of the year. This remark may be illustrated by some of the effects of mercury. The French practitioners consider that they can cause the influence of this medicine to be chiefly exerted on any part they desire, merely by the use of some preparatory measures,—as the maintaining a certain degree of topical irritation previously to its use: they would, indeed, think themselves great bunglers in the practice of the medical art if they could not, when they pleased, prevent salivation, and yet obtain all the desired effects of the remedy, in the greater proportion of instances. On looking into our manuscript transcript of the lectures of Mr. PEARSON, we find a somewhat similar observation.

Chronic diseases should be cautiously watched at this season, as they are particularly disposed to pass rapidly into a state of increased or inflammatory action.

We have recently observed a curious instance of the effects of friction with the tartar-emetic ointment. On advising the use of it for a female with chronic inflammation of the uterus, we found that it invariably excited vomiting. This, as far as one case will permit, with the support of other analogous phenomena,—as inflammation of the stomach, expressly, from the external application of arsenic; the purging caused by that of jalap, scammony, &c.—will shew that tartar-emetic may be used externally with other views besides that of inducing counter-irritation.

METEOROLOGICAL JOURNAL,

By Messrs. William Harris and Co. 50, Holborn, London.

From the 20th March to the 19th April, 1819, *inclusive.*

Day of Month.	Moon.	Rain gauge	Therm.			Barom.		De Luc's Hygrom. Dry	Damp		Wind.		Atmospheric Variation.		
Mar.															
20			45	50	44	29·48	29·72		9	10	NNW	NNW	Rain	Clo.	
21		,05	46	49	42	29·80	29·85		10	11	N	SE	Fine		
22			47	51	44	29·84	29·81		11	10	W va.	W va.	Fine		Clo.
23			47	50	45	29·77	29·69		8	11	SW	SSE	Clo.		
24			48	55	47	29·59	29·71		12	11	WSW	SW	Rain	Fine	
25	●	,05	50	54	41	29·70	29·74		11	11	W	W va	Rain	Showry	Fine
26		,04	45	50	45	29·85	29·99		11	9	W	W	Fine		Showry
27		,03	49	51	47	29·91	29·88		8	7	SW va	W va.	Fine	Rain	Clo.
28		,24	51	57	49	29·85	29.81		9	10	SW	SW	Rain	Clo.	
29			54	53	46	29·75	29·87		10	10	WSW	W va.	Fine	Rain	Fine
30		,03	50	55	47	29·75	30·04		11	11	SW	W va.	Rain		
31		,12	54	58	47	30·10	30·14		13	11	WNW	WSW	Clo.		
Apr.															
1			54	59	48	30·16	30·16		10	12	W	WNW	Fine		
2	☽		55	62	47	30·15	30·12		11	10	NW	SE	Fine		
3			53	63	47	30·04	30·00		10	9	W	SE	Fine		
4			52	57	45	30·05	30·08		9	10	SE	SE	Fine		
5			51	56	41	30·09	30·05		8	8	NE	SE	Fine		
6			45	53	46	29·93	29·74		7	8	SE	SE va.	Fine		
7			50	61	50	29·71	29·78		8	9	SSE	SE	Fine		Showry
8			54	54	45	29·86	29·96		11	10	S	N	Fog	Rain	Fine
9			50	58	47	30·03	30·07		10	10	N	N	Fine		
10	○	,32	51	57	47	30·05	29·78		7	6	N	W	Fine		
11			51	56	44	29·47	29·41		7	8	WSW	W	Fine		
12			45	52	49	29·39	29·32		10	12	W	NW	Clo.	Rain	
13		,26	52	55	45	29·27	29·51		13	10	ESE	SSW	Fog	Rain	Fine
14		,19	47	53	45	29·50	29·44		8	8	SW	SW	Clo.	Fine	Rain
15		,23	48	54	47	29·46	29·41		7	7	WSW	SE	Showry	Fine	Clo.
16		,09	49	55	44	29·37	29·33		8	10	SW	SW	Showry		
17	☾	,15	48	54	49	29·42	29·52		7	9	SW	SW	Showry	Stormy	Showry
18		,17	51	58	48	29·55	29·50		10	11	WSW	WSW	Fine	Showry	Clo.
19		,31	50	55	49	29·65	29 69		10	11	SW	W	Fine	Showry	Rain

The quantity of rain fallen in the month of March
is 1 inch and 15-100ths.

ERRATA.

In page 369, and the heads in the succeeding pages, for Owen read Oven.
— 370, line 5, for *ignorance* read *ignorami.*
— 372, — 28, for *profession* read *professor.*